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A Lecture
ON
OLD UNREDUCED DISLOCATIONS OF THE SHOULDER-JOINT,

INCLUDING FIVE HITHERTO UNPUBLISHED CASES OF OPERATIVE TREATMENT, IN ONE OF WHICH GOLD PLATE WAS BURIED FOR 40 DAYS.

Delivered in the West London Post-graduate College on Dec. 21st, 1903,

BY C. R. B. KEETLEY, F.R.C.S. ENG.,
SENIOR SURGEON TO THE WEST LONDON HOSPITAL AND LECTURER ON CLINICAL SURGERY IN THE WEST LONDON POST-GRADUATE COLLEGE.

GENTLEMEN,—Dislocation of the shoulder-joint is the commonest of dislocations and one of the most liable to remain unreduced. This liability may be explained in the following way. The joint is thickly covered with both muscle and fat in the middle-aged males who are most liable to this injury, so that when swelling supervenes a wrong or doubtful diagnosis is apt to be made. The patients are not infrequently alcoholic and therefore careless of their persons and dilatory in reporting themselves to their medical attendant or in presenting themselves at hospital. The injury is not always a very painful one. Possibly one reason why it is sometimes confounded with fracture is that it usually is complicated with some minor fracture, especially with fracture of the greater tuberosity of the humerus. We have learnt this from the practice of operating on unreduced dislocations and also from the use of the x rays. The great majority of these dislocations are subcoracoid and it will be remembered that their reduction is usually attempted either by extension combined with leverage obtained by using the surgeon's foot or fist as a fulcrum or else by manipulation, using the attachment of the coraco-humeral ligament to the edge of the glenoid cavity as a fulcrum and often also combining with the manipulation extension applied to the upper end of the arm and at right angles to its long axis so as to prize the head of the humerus from beneath the coracoid or the clavicle. And it is not uncommon to combine with any method direct pressure with the fingers over the head of the humerus with a view to pushing it into the glenoid cavity.

The most justly popular of the manipulation methods is Kocher's and there is no better extension method than that known as Astley Cooper's—namely, with the heel in the axilla. Kocher's method, as is well known, is based mainly on the consideration that the upper and outer part of the capsule, including especially the strong bands which extend from the coracoid process to the humerus on each side of the bicipital groove, remains untorn. In order to relax this the upper arm is rotated strongly outwards. Previously, in order to bring the head of the humerus firmly against the edge of the glenoid, the elbow is pressed against the flank and, in resistant cases, backwards and towards the spine as well. Then the arm is raised in an antero-posterior plane up towards the front of the shoulder. The head of the humerus ought then to have been by these manipulations levered into position on the edge of the glenoid opposite the rent in the capsule and ready to slip into place as soon as the humerus is rotated inwards. Measures like these frequently succeed in old dislocations as well as in new, especially if they are used with skill, patience, and perseverance. (Great force should not be employed on account of its dangers.) Thus Kocher reduced 12 out of 13 dislocations by manipulation. Their age was as follows: one of three weeks, two of five weeks, three of seven weeks, four of three months, and two of four months. Other surgeons do not seem to have been quite so successful, though Kocher's pupil, Ceppi, says that one can reduce an old as easily as a recent dislocation. It is difficult to avoid a slight feeling of scepticism, especially when one has inspected the interior of an old unreduced shoulder-joint. The usually accepted limit for even attempting reduction of dislocated shoulders has long been three months. It is well known that success has occasionally followed attempts on much older cases, but only rarely. And many dangerous accidents have resulted from the employment of even moderate force. No reasonable person can suppose that a very old unreduced dislocation can be freed from its adhesions and from its new capsule, and a place remade for it in the glenoid now firmly adherent to overlying soft tissues and often to fragments of bone without the exercise of force.

SYMPTOMS.

Those of an old unreduced dislocation differ in some points from those of a fresh one. Instead of swelling and effusion of blood there is wasting of the deltoid and of other muscles. The absence of the head of the humerus from the glenoid and its presence elsewhere thus become very obvious. On the other hand, in some old cases the original projection of the elbow from the side becomes lessened, but not in all, at least until a very considerable time has elapsed. In some cases time and exercises increase the range of movement of the displaced shoulder-joint, but in others time diminishes it. The freedom of movement of the scapula on the trunk tends to increase. As a rule there is no difficulty in recognising an old dislocation of the shoulder, because the absence of the head of the humerus from the glenoid can be felt so easily as well as seen. Whether or not there is also a fracture is less easy to determine, but the x rays can be of great assistance. Neither in a skiagram nor even in the course of an open operation is it always possible to be sure whether abnormally placed bone has been chipped off, torn off, or altogether newly formed.

PROGNOSIS.

The longest series of cases of old dislocation of the shoulder treated at one hospital under one surgeon with which I am acquainted is that given by J. Finckh in his admirable account of the experience of Professor Bruns in the Tübingen Clinic. It includes exactly 100 cases. In 27 of these reduction was not attempted and in 73 it was. In nearly two-thirds of these 73 it was successfully effected. Much, of course, depended on the age of the dislocation. After the ninth week failure became usual—there were only two successes out of 16. Up to the ninth week 46 out of 55 were reduced—i.e., 84 per cent.:—

In the 2-3 week were 20 cases, of which 19 were reduced ... ... = 95 per cent.	=84 per cent.
In the 3-6 week were 24 cases, of which 20 were reduced ... ... = 83 per cent.	
In the 6-9 week were 11 cases, of which 7 were reduced ... ... = 64 per cent.	

I think these figures give a very just idea of the general prognosis and that Finckh sums up the position well in the following words: "If no complication coexists the prognosis of dislocations two to four weeks old is absolutely favourable, up to the ninth week very good, since up to this point of time nearly four-fifths of all the cases were reduced. Cases of longer duration than nine weeks were only exceptionally reduced without a cutting operation." I will deal with the prognosis of cutting operations when I describe them under the head of treatment.

The non-operative reduction of old dislocations is attended with the same risk of accidents as is that of recent ones. First, as regards anæsthetics, there appears to be a special danger attached to the administration of chloroform to facilitate the reduction of dislocation of the shoulder-joint. Kocher states that Marchand collected 134 deaths from chloroform, of which no less than 11 occurred in reducing dislocations of the shoulder. I seldom or never permit chloroform to be given in such cases myself. In one of the few exceptions I have permitted to this rule for many years the patient was himself a surgeon and had his own way; but in one case in which I was about to attempt reduction of a hip chloroform was given contrary to my wish and there resulted a death from anæsthesia which to the survivors, including myself, was one of the most painful catastrophes I have ever witnessed. The great majority of recent shoulder dislocations and not a few older ones need no anæsthetic at all; and if one is required gas or ether should be given. If the patient struggles when the reduction has commenced one of two courses should be adopted: (1) either the surgeon should proceed without any more anæsthetic at all being administered, hoping to effect the reduction quickly; or else (2) he should desist altogether and the anæsthetist, carefully avoiding all hurry, should patiently and watchfully get the patient well under. I give this advice because many

deaths from anæsthetics have occurred in the following way. The patient has shown signs of consciousness as soon as the surgeon, commencing to operate, has touched some sensitive tissue or organ. The anæsthetist has then attempted to hurry the patient into a state of profound anæsthesia. The breathing has gone wrong or ceased a second or two before the anæsthetist, whom a long series of successful administrations has made unsuspicious, has realised what has happened. It has then been too late to retrieve the situation. If the breathing stops while strong extension is being used the surgeon should always desist.

Secondly, as regards *risk to vessels*. It should be remembered that serious accidents of this kind have occurred with the use of force described by reliable men like Mr. T. Holmes, for example, as moderate or even as "slight." The Tam O'Shanters and Souter Johnnies who form so large a proportion of these cases are apt to have unsound vessels, as, indeed, are more abstemious people of advanced middle age, and even in the healthiest subjects the adhesions and new fibrous tissue formed around the displaced head of the humerus frequently adhere to the axillary vessels. The great majority of old unreduced dislocations affect persons between the ages of 40 and 60 years. Another remarkable fact about these cases is that even with a perforated axillary artery there may be no loss of radial pulse at the wrist. This was observed both in Holmes's and in Callender's cases. There is also sometimes little or no pulsation of the large axillary swelling which forms and usually keeps increasing and is accompanied by pain in the arm which may become very severe and by the general signs of hæmorrhage, such for example, as pallor and restlessness. Nor is there always a bruit.

Thirdly, with regard to *injury to nerves*, minor nervous troubles such as pins and needles and numbness in the fingers occur sometimes and usually pass away, especially if assisted by rubbing and galvanism. But more serious troubles, including great pain, also occur and used to be regarded as the principal indication for operative measures which then generally took the form of excision of the humeral head. More rarely dislocation of the shoulder occurs in conjunction with such severe injury of the brachial plexus that surgery vainly attempts to afford a remedy. These terrible cases of injury to the brachial plexus or its roots more frequently, however, follow falls on the shoulder which do *not* cause dislocation. Dislocations of the shoulder, though they often are caused by falls on the shoulder, are more frequently the result of falls on the elbow or the hand. Even complete motor and sensory paralysis of the arm complicating dislocation of the shoulder is sometimes seen to pass off without operative treatment.

With regard to *complication by fracture*, the most common is that in which the greater tuberosity is broken off; the next most common is fracture of the surgical or anatomical neck. Less frequent are fractures of the edge of the glenoid fossa. I cannot give any trustworthy figures. The use of the x rays and the practice of operative reduction are showing that old figures bearing on these points are erroneous. Great œdema of the arm is sometimes seen.

With regard to the prognosis in cases of dislocation of the shoulder which remain unreduced, if observed for some years they are sometimes seen to improve wonderfully in the matter of usefulness. Not that the degree of all-round mobility of the new and abnormally placed joint becomes at all comparable to that of the old but it increases up to a certain point and is supplemented by increased mobility of the scapula. Nevertheless, the majority of unreduced dislocations of the shoulder are seen, even after many months, to inflict on their subjects great disability, especially in fulfilling the functions of the toilette. When nerves are compressed, pain and even paralyses further complicate the case and may be incurable without operation.

PATHOLOGY.

Of the changes in the relations of the bones I could not hope to equal, much less to improve upon, the description given by Sir William Flower in Holmes's "System of Surgery," second edition, vol. ii., p. 813. Writing of fresh dislocations of the common or subcoracoid variety he says: "The head of the humerus lies on the anterior surface of the neck of the scapula, immediately below the coracoid process, in front of, internal to, and rather lower than its normal situation. That part of the anatomical neck which separates the articular surface from the great tuberosity rests upon the anterior edge of the glenoid fossa. The subscapular muscle is raised from the neck of the scapula and stretched over the front of, or above, the head of the humerus. The muscles from the back of the scapula are drawn tightly across the glenoid fossa or one or more of them may be ruptured or detached from the bone. A portion or the whole of the greater tuberosity is frequently separated, when it may be drawn into the glenoid fossa by the action of the muscles inserted into it or may be retained in connexion with the humerus by the periosteum or the capsular ligament. The long tendon of the biceps is rarely, if ever, injured. (Footnote.—As Dr. Hamilton has recently asserted that, contrary to what has been affirmed by Sir Astley Cooper, the tendon of the long head of the biceps is often broken asunder or detached completely from its insertion (op. cit., p. 535) I may mention that the statement in the text is founded on examination of numerous specimens and reports of dissections)." The truth is that the long head of the biceps is occasionally but exceptionally torn from its attachment. In all the 44 cases given in brief abstract in Reerink's collection of unreduced dislocations treated by arthrotomy or by excision this accident is not once noted. But it is significant that in the only two cases of which a *full* anatomical description is given by the same author (quoting from Jössel) the biceps tendon was torn from the glenoid cavity in one case and ended as a small fibrous band in the bicipital groove. The biceps tendon was intact in all the five dislocated shoulder-joints I have operated on myself. "The muscles that descend from the coracoid process to the humerus are stretched by the projection of the head of the bone forwards and the great vessels and nerves are displaced inwards. Occasionally the circumflex nerve is pressed upon to such an extent as to cause paralysis of the deltoid muscle," &c.

In old unreduced cases "in process of time a new shallow socket is formed upon the anterior surface of the neck of the scapula, partly by absorption of old bone and partly by deposit of new around its edge." In subcoracoid dislocations "the new cavity is formed more or less at the expense of the anterior portion of the glenoid fossa, which is gradually worn away, so that in some cases the original socket is finally almost entirely lost. A corresponding change takes place in the head of the humerus; where it rests upon the edge of the glenoid fossa absorption occurs, so that a groove is excavated, usually between the articular head and the great tuberosity. With continued friction this increases in size simultaneously with the change in the scapula; the two accommodate themselves to each other and ultimately the head of the latter bone presents a double articular surface, separated by a vertical ridge, the posterior portion being part of the old glenoid cavity, the anterior the newly formed socket. These respectively articulate with the two sides of a wide groove placed vertically on the head of the humerus, and thus a rude kind of joint, which allows of a certain amount of motion, is formed." "The under surface of the coracoid process, especially near its tip, is almost always found smooth and eburnated, having entered into the formation of the new articulation."

The above changes in the glenoid and in the humeral head do not take place in intracoracoid dislocations, and in subglenoid cases the scapular new articular surface is formed "on the upper part of the anterior border of the inferior costa of the scapula, encroaching considerably upon the lower and anterior part of the glenoid fossa" (Flower).

This does not by any means end the account of the salient anatomical features of an old unreduced dislocation of the shoulder. The new joint, as seen in an open operation, is not so much the result of absorption as of new formation. In or near its edges, or parts of them, is found new bone, often in the form of separate osteophytes. The cavity is deepened by fibrous tissue which surrounds the head of the humerus, forming a new capsule and closing the hole in the old capsule. This fibrous tissue is partly due to degeneration of the muscles which stretch over the head of the humerus and is partly derived from such fragments of capsule, of fat, of cellular tissue, of fascia, and of aponeurosis as lie in contact with the dislocated head. In a few weeks it becomes more and more impossible to distinguish these various components, which, so to speak, fuse together. A thin layer of cartilage may form on the new joint surface of the scapula, but in the glenoid fossa the cartilage either altogether disappears or leaves only a few scattered "islands" behind. The new capsule has a glistening interior surface as if lined with synovial membrane, which apparently secretes a rather scanty synovial or pseudo-synovial fluid. The glenoid fossa

is filled with tissue, sometimes formed by adhesions of the outer part of the capsule and of the external rotator muscles and sometimes partly of these and partly of bone torn from the greater tuberosity of the humerus. The head of the humerus besides being altered in the manner already related is often greatly changed as a sequence of fractures of the greater tuberosity or of the anatomical or of the surgical neck. This change is usually increased by the formation of callus, of osteophytes, and of ossifications in the attached muscles. In one case it was described as resembling in shape the upper extremity of the femur. In one of my cases it was greatly increased in the transverse diameter.

TREATMENT.

The choice lies between, on the one hand, endeavouring to make the best of this new joint by exercises, massage, and electricity, and on the other attempting to effect reduction by means of (1) manipulation or extension; (2) open incision; and (3) excision. Subcutaneous division of soft parts may be regarded as superseded by open antiseptic operation. Some good results of the subcutaneous method were reported by Polaillon and Mollière. Division of the anatomical neck followed by an endeavour to place the upper end of the shaft into the glenoid has been recommended. I should be loth to try this mode in the case of the shoulder because I have seen it so utterly fail in the case of dislocation of the head of the radius at the elbow. After a mere division of a bone the fragments, even when carefully displaced, lie alongside each other and tend to unite ultimately. Passive movements are usually too painful in such cases to be used effectually.

The attempt at reduction without cutting.—This may reasonably be tried any time up to the end of the fourth month except in old people with atheromatous arteries. First of all Kocher's method should be applied (1) without anæsthesia and (2) with ether or with chloride of ethyl. As it is *not* involuntary muscular contraction which makes the difficulty the anæsthetic is given to prevent pain and need not always be pushed to the most profound depth. Remember what has already been written above about the danger of chloroform in this class of cases. Kocher's method having failed, extension and circumduction may be tried. The means of counter-extension should not press upon the folds of the axilla. To prevent this Skey invented his knob. In the absence of such an instrument some large firm pad should be placed in the axilla and the counter extending force made to bear upon it. The extension should be made in four directions: (1) extension in the line of the axis of the humerus downwards; (2) counter extension upwards; (3) from the upper part of the humerus just below the insertion of the pectoralis major, outwards; and (4) counter-extension to force 3, from the side of the chest across the thorax. If a machine is used my fracture extension machine will do, *but a dynamometer must be employed*. The degree of force justifiable would depend on the age and development of the patient. I think 100 pounds is the outside which should be employed even for a strong man. Such a force can effect a good deal of stretching if employed continuously for several minutes. It should be possible to release it instantly either by pulling one end of a simple loop or by cutting a cord with a sharp knife, which should lie open and close at hand. Guérin reported a case in which the forearm was torn off. After the forcible extension and rotation a second trial of Kocher's method may be made. There should be no hurry. Many accidents have followed such attempts at reduction, even when reported as having been of gentle character.

Fracture of the surgical neck of the humerus is not very frequent. It occurred in four out of the 73 cases in which reduction was attempted in von Bruns's clinic. Of these four, three occurred in women (Finckh). In a case recorded by Kocher in which this accident occurred he reduced the upper extremity of the shaft into the glenoid. A false joint sometimes follows. The functional results may then be good. A false joint followed a case of Albert's in which the surgical neck broke and he pulled the head into the glenoid with two hooks. This was, of course, an open operation. The shaft of the humerus has been broken in employing Kocher's method. Limited paralyses, e.g. of the fingers, are sometimes caused but they are usually only temporary. However, main cords of the brachial plexus are said to have been torn. Flaubert reports a case.

The structure especially endangered is the axillary artery. Many cases have been collected by Flaubert, Malgaigne, Callender, Le Fort, Willard, Marchand, Körte, and Stimson. In Stimson's collection of 44 cases the axillary vein alone was ruptured in three (Froriep, Price, and Hailey), although he thinks the last one doubtful, and the artery and vein together in two (Platner and Baum). In most of the others the axillary artery or one of its branches was injured, but in some the source of the hæmorrhage remains uncertain. The upper was always the part of the artery injured. In a minority of the cases only a small opening was found and that on the anterior wall of the artery (see, e.g., Callender's case, op. cit.). In more than half the cases the dislocation was recent (less than three weeks old). Sometimes it is certainly caused by the dislocation and not by the reduction. Often great force had been applied. As I have already written Callender and Holmes say the force used in their cases was moderate or even slight. Stimson says that "the accident is most to be apprehended when the elbow is raised in abduction to the height of the shoulder, or is carried, as in Callender's case, across the chest and face in a wide movement of circumduction; and for this reason, that in these movements the dislocated head of the bone is turned downward into the axilla and the vessels which lie upon its inner side are pressed down before it and put upon the stretch, while those branches which run almost directly outward, the subscapular and circumflex, and are fixed to the tissues amid which they branch, are directly and forcibly elongated."

The symptoms of rupture of the axillary artery vary. Sometimes, as in Callender and Holmes's cases, a large diffuse swelling appears quickly in the axilla and grows to an alarming size, discolouration also appearing, but no pulsation and little or no bruit, while even the radial pulse may be little affected. In other cases the ordinary signs of aneurysm, pulsation and bruit, are present. Some cases have been so chronic and the tumour so small that aneurysm has not been suspected and they have been incised. Rupture of the axillary artery is at best a serious accident, but the statistics of Stimson and the other authors mentioned, being mainly drawn from pre-antiseptic times, are unduly alarming. It is remarkable how many patients have recovered without any operation at all. But Stimson found the total fatality of the accident to amount to 70 per cent.

In a case of rupture of the axillary artery associated with dislocation of the shoulder I should be disposed (1) to place a temporary ligature on the subclavian; (2) to clear blood and clots out of the axilla, to tie any branch of the axillary found torn or the axillary itself if it was torn in two or nearly in two, but to leave it untied if there was merely a small oval hole in it (as occurred in 5 cases out of 32); this small hole I would close by suture if that operation proved easy; in any circumstances I should pack the axilla carefully with antiseptic or aseptic gauze. (3) If the patient's condition was not of the best, I should immediately inject neutral saline solution either subcutaneously or into one of the veins exposed by the operation. Owing to the everyday practice of clearing out glands, surgeons nowadays are much more at home in operating on the axilla than were the surgeons, great men as some of them were, who reported the cases collected by Stimson.

After the operation careful bandaging would be, of course, essential and should fix without compressing the whole arm and hand to the trunk. If the dislocation still required reduction, and especially if attempts at reduction had been made and failed, it would probably be best to defer trying to reduce it. But all would depend on the age and condition of the patient and on the age of the dislocation.

Other modes of using extension besides (1) manual force, (2) the old-fashioned pulleys and (3) machine extension are (4) continuous elastic extension and (5) the use of Stimson's perforated couch. Continuous elastic extension is mentioned by Ceppi as having been used by Legros, Th. Anger, and A. Després. The use of a dilatable indiarubber bag in the axilla, as employed successfully by Cock in a case of 25 days' standing, is related to this method. An air pad of rubber was placed in the axilla and the arm was firmly bandaged to the side. On the removal of the pad on the third day reduction had taken place. Stimson's couch is perforated to permit the arm to pass through. A weight of ten pounds is attached to the hand which, of course, hangs down beneath the couch. Its dragging gradually effects reduction. This is obviously a very simple plan, not alarming to the patient, and, I should think, not likely to be very painful.

OPERATIVE TREATMENT OF OLD UNREDUCED DISLOCATION OF THE SHOULDER.

Before considering this subject critically I will relate my own personal experience and also cast a glance over the literature of the subject so far as it is known to me.

CASE 1.—The patient was a female, aged 51 years, who was admitted to the West London Hospital on Jan. 10th, 1890 (The case was reported by Dr. F. J. McCann, house surgeon.) A year and a week before she fell and put her shoulder out. On the same evening a medical man told her that he had reduced it, but it was never kept in position. A month afterwards she came to the hospital and, after an unsuccessful attempt at reduction, was advised to come in; but she did not until the above-mentioned date when she came on account of the considerable inconvenience which she felt from impaired movement.

Operation was performed on Jan. 14th. A four-inch incision from the clavicle downwards was made separating the anterior fibres of the deltoid. The head of the humerus being exposed, the two tuberosities of the humerus were separated, each from the head of the bone, with a chisel and mallet. The joint cavity being opened, the head of the humerus, which was roughened and irregular, was found to fit into a new socket below the coracoid. Extension and counter-extension being applied, the head of the humerus was forced out of its abnormal position, with the result that, although it could not be retained in a position exactly symmetrical with the humeral head of the other shoulder, it was very much improved. (Refer to the account given above of the changes in the glenoid in old-standing subcoracoid dislocations.) Silver-wire sutures were used, a drain being put in the upper angle of the wound. Iodoform gauze and wood-wool pad dressings. Especial care was taken to fix the arm to the side. The dressing was repeated on the same night on account of the oozing of blood. The wound was dressed again on the following day and the drainage-tube was removed; it was also dressed on the fifth and the eleventh days, the sutures being then removed. Healing per primam followed. The temperature never reached 99° F. after the third day. Passive movements under gas were begun at the end of the second week. The patient was discharged on the twenty second day.

With the exception of Lister's case of double dislocation in an epileptic there is no case of reduction of a dislocation of the shoulder joint by open operation recorded as having occurred anterior to this either in the British Isles or in America. I am going by Reerink's collection of records. This month (December, 1903), nearly 14 years after the operation, Dr. Frank Dendle of Isleworth kindly went to the patient's address to report on her after-history. He learnt from her daughter that she had died meanwhile but had found her arm equal to all its duties for eight years after the operation and had not complained of it.

CASE 2.—The patient, a man, aged 36 years, was admitted to hospital on March 14th, 1899. The case was reported by Dr. G. K. Briggs, house surgeon. Six weeks before, while whitewashing a wall, he slipped off a box and dislocated his shoulder. A medical man tried unsuccessfully to reduce it and sent him to hospital. There it was said to have been reduced under an anæsthetic and the arm was confined to the side for 11 days. It was then examined by a medical man who noticed nothing wrong but the arm continued to be helpless. The patient had it examined by the x rays and said he was told that the head of the bone was "two inches lower than it ought to be." The head of the bone could now be seen prominent beneath the coracoid process.

Attempts to reduce the dislocation having failed on March 17th an operation was performed. After an incision downwards from the clavicle, the deltoid and pectoralis major being retracted and the fascia divided, the coracoid process was chiselled through and the end was turned down with the short head of the biceps. The head of the humerus was now exposed freely by a perpendicular incision, with another cut nearly at right angles to it and running outwards from its upper end. The long head of the biceps was very tense and interfered with reduction. It was, therefore, divided very obliquely. A powerful pair of rectangular forceps was slipped round the neck of the humerus and using them as a hook, not as forceps, while at the same time extension and counter-extension were made on the limb, the dislocation was completely reduced. The wound was dressed for the first time on the thirteenth day. Healing was complete on the twentieth day, the movements in the joint being fairly free, and the patient left the hospital. The highest temperature throughout the case was 98·8° F.

I come now to cases treated by excision of the head of the humerus.

CASE 3.—This occurred about 20 years ago and I have not been able to find any notes of it. An old man was admitted into the "accident" ward of the West London Hospital. There was obviously displacement of the upper end of the humerus combined with fracture. No doubt there was considerable swelling and of course there were no x rays in those days. I cut down on the joint and found a fracture chiefly of the anatomical neck of the humerus. The cartilaginous surface of the head of the bone, instead of being in contact with the glenoid fossa, looked outwards and downwards and was partly in contact with the upper end of the shaft of the bone and partly with the deep surface of the deltoid. I removed the head of the humerus and after trimming the upper end of the shaft placed it in the glenoid cavity. I am sorry to say that there was some suppuration but with free posterior drainage this quickly came to an end, the wound healed, and the patient went out. I am unable to give the ultimate results of this operation.

CASE 4.—The patient was a man, aged 50 years. Seven weeks before operation he slipped while wrestling, his opponent at the same time catching his right arm. At first, owing to the swelling, a diagnosis was not made. A fortnight afterwards several attempts at reduction were made under anæsthesia and unsuccessfully. There was a subclavicular dislocation of the right humerus. The head of the humerus was felt prominent below the clavicle and the arm projected from the side in a strongly adducted position (at an angle of about 45°). Flattening of the deltoid was not very evident "owing to the amount of the periarticular swelling and thickening present." (Much of the greater tuberosity was afterwards found in, and adherent to, the glenoid.)

Operation was performed on Jan. 20th, 1903. An incision was made between the pectoralis major and the anterior border of the deltoid. The coracoid process was divided and turned down with its attached muscles. The fibres of the deltoid were now cut across for several inches about an inch from their acromio-clavicular origin so as to expose thoroughly the glenoid fossa. Filling this and adherent to it were fragments of the greater tuberosity and the insertion of its muscles. First the glenoid was cleared out and then the head of the humerus was freed from strong adhesions which surrounded it. Attempts of various kinds were now made to reduce the dislocation—extension and counter-extension, assisted by strong hooks, circumduction, and manipulation—but unsuccessfully. One hook was used to pull the glenoid up and another to pull the neck of the humerus out. The head of the humerus would nearly rise on to the edge of the glenoid but not quite. Finally, the greater part of the head of the humerus was cut off at the anatomical neck. The arm now came into fair position. Gauze packing and a continuous skin suture were used. A week afterwards the wound was reopened completely, a small projecting portion of the humerus was rounded off, and the upper end of the bone was forced into the near proximity of the glenoid fossa by pulling it outwards with a strong hook. A piece of "gold plate" was moulded over the end of the humerus (and a little way down the surgical neck to prevent it from becoming adherent to the neighbouring soft parts). The coracoid process was fixed in its place again with a silver wire, the deltoid was restored with a buried suture, and gauze was inserted, especially in the hole left below the clavicle. Thick dressings were placed in the axilla and elsewhere and the arm was bound to the side. It was one month before the wound completely healed over the gold plate, although there was no rise of temperature (the highest point reached was 99·2° F.) and there was no discharge except from the granulations which formed where the gauze had been packed in. The gauze packing was occasionally removed, of course, except during the first week; the outer dressings were changed daily.

On the fortieth day of the insertion of the gold plate the old incision was reopened, the gold was removed, and the coracoid process and divided muscles were repaired with buried sutures. A fortnight afterwards passive movements were commenced, the first time under gas. One month after the removal of the gold plate the patient went out.

From beginning to end of this case the temperature rose only once to 100° and on one other occasion to 99°.

CASE 5.—The patient was a male. Four months before operation he was knocked off a bicycle and treated by a bone-setter who professed to have reduced the dislocation. In August, 1902, he attended at the hospital and an unsuccessful attempt at reduction was made under anæsthesia. I was then away on my autumn holiday. The patient was taken in after my return and had then obviously an old unreduced subcoracoid dislocation. On Oct. 3rd, 1902, having failed to effect reduction myself after using the pulleys, I proceeded to operation. The head of the humerus was found packed in by exceedingly dense tough adhesions closely attached both to it and to the surrounding structures. The attempt at reduction was conducted on the same lines as in the case last described, but unsuccessfully. As this patient suffered from no pain and as excision cannot be depended on to give a very wide range of movement I did not excise the head of the humerus but closed the wound except where it gave issue to a gauze drain. On the day of operation the temperature rose to 100° F. On the next day it dropped to normal and remained there. He went home on Nov. 7th in the same condition as when he was admitted. Cases 4 and 5 were reported by Mr. Kenneth Breton, house surgeon.

Many excellent analyses of cases from various clinics such as Kocher's, Kraske's, and von Bruns's, many interesting individual cases such as those of Annandale, Savory (quoted by Marsh), Sheild, Lister, Albert, Burckhardt, and von Volkmann, and valuable anatomical observations such as those of Flower, von Thieme, and Jössel, have enriched the literature of this subject. References will be given at the end. Of the first class of papers I have found especially valuable those of Ceppi (on Kocher's method), of Reerink (Kraske's clinic), and Knapp (von Bruns's clinic). The works of Astley Cooper, Malgaigne, Hamilton, and Flower are still valuable storehouses of facts, although they wrote before the position was altered by the advent of antiseptic surgery, and a writing which has the stamp of genius is always of interest. All the great surgeons of pre-Listerian times justly condemned open operations for unreduced dislocation of the shoulder. The antiseptic era came; and in 1874 Thiersch excised the head of the humerus in a six years old case. In the same year Albert of Vienna tried to effect reduction by open operation, but the surgical head of the humerus fractured and the result was non-union and a false joint. In 1875 Annandale resected the humeral head in a subclavicular case. The atheromatous circumflex artery was torn. Ligature of the axillary artery was followed by death in three days.

In this country Sheild appears to have been the first to record a case of successful resection in 1888. Adams referred to another in the debate on Sheild's paper, and in the same year Lister described a remarkable case of successful operative reduction of dislocation of *both* shoulders and also a somewhat similar case in which he removed the articular surface of each humerus, cutting obliquely through the anatomical neck. In 1889 Mayo Robson reported a case of operation on a patient with the rare supracoracoid dislocation, which he incised but found irremediable by operation. My own first case of operative reduction, reported above, occurred in 1890 (Jan. 19th). In America Parmenter of Buffalo reported a successful case of operative reduction in 1891. In the meantime von Langenbeck (three cases), Ried (four cases), Schönborn (three cases), Kocher (eight cases), Nicolaysen (two cases), as well as Louis Thomas, Socin, Israel, Burckhardt, Book, Maas, Volkmann, and Bardenhauer (one case each), had published reports on the continent. So that a few years later (in 1896) Reerink was able to collect reports of 46 patients thus operated on, and, of course, in this period there must have been others unpublished (e.g., two of my own). In a majority of the cases excision was performed; in some nothing was done except to close the wound after inspection.

In spite of the eminence and great general operative and antiseptic experience of the above named surgeons, Reerink says that healing by first intention occurred only eight times after arthrotomy and only four times after resection. Severe suppuration is expressly stated to have occurred after nine excisions and five arthrotomies. In a number of cases it is not clear exactly what course the wound took and in the great majority the ultimate and distant results, as regards function, are not given and appear not to have been observed. The immediate results seem to have generally satisfied the operators. But of the 46 patients seven died (17·4 per cent.); of the resection cases three died from sepsis and one from secondary hæmorrhage; of the arthrotomies one perished from long-continued suppuration, one from purulent bronchitis, and one (on the twenty-sixth day) from miliary tuberculosis. The addition of my own cases to the above series would reduce the mortality to about 13·7 per cent. It must be remembered that some of the above cases date from the "seventies" and "eighties" and that of late there have been great improvements made in the protection of this class of case from sepsis. Nevertheless, they demand the greatest care and some special experience of joint surgery and that in a greater degree than do operations on other large joints, such as the elbow and the knee.

Why is it difficult to preserve perfect asepsis in this class of operation? There are a number of conditions, most of them common in other operations and not individually formidable but collectively causing considerable danger: (1) The class of operations under consideration are prolonged; (2) the wound is large and deep, the patient being often fat and muscular; (3) retraction is apt to be rough and prolonged; (4) the displaced head vacates a large space, the walls of which do not collapse and obliterate it; (5) the drainage of this space is contrary to gravity; (6) more than one assistant is employed (and needed); (7) talking arises when difficulties present themselves, hence the risk of infection by saliva; (8) the operator and assistants may be tempted to handle parts of the limb or trunk not aseptic; (9) the anæsthetist and the patient's hair and mouth are near the field of operation; and (10) the patient, generally a middle-aged male and often the reverse of abstemious, is not always "a good subject." But measures can be taken to guard against these risks and these will be described presently.

THE PRACTICAL MANAGEMENT OF OPEN OPERATION FOR UNREDUCED DISLOCATION OF THE SHOULDER JOINT.

Unless the patient is obviously young and healthy it is not enough to have his urine examined but two or three drachms of blood should be withdrawn from some small vein and subjected to the blood-freezing test. If this test gives a satisfactory result, well and good, but if not, either no operation at all should be done or, if an operation seems imperatively necessary in consequence of painful pressure on the axillary nerves or vessels, the operation must be of the simplest kind, executed with absolute directness—i.e., it should be a straightforward, uncompromising resection of the head of the humerus, performed through an ample incision. In other cases the decision between resection and attempted reduction may be deferred until the glenoid cavity and the humeral head have been exposed.

Whatever the operation may be, all the general arrangements to secure asepsis should be made with particular care, and, further: 1. At least two good, trustworthy, and strong assistants should be secured. 2. Both they and the anæsthetist should be requested to avoid talking or, if they should have anything important to say, to turn the head away from the field of operation while saying it. 3. The operator should direct them as much as possible by signs during the operation, after giving them a clear outline of his plan beforehand. 4. In this, as in all long operations, the assistants should rinse their hands in some disinfecting lotion, such as warm 1 in 2000 sublimate solution at frequent intervals. The surgeon does this as a matter of course. 5. The assistants, if not the surgeon, should wear gloves either of rubber or of white cotton, preferably the former, of course carefully sterilised. 6. All handling of either the wound or the ligatures should be reduced to a minimum; in particular the fingers should not be used as retractors. 7. The patient's hair, neck, jaws, and chin should be aseptic ised, so also should the outside of the ether bag and the anæsthetist's hands. 8. The incision should be arranged to give free access without violent retraction. (The incision which I have found the best for shoulder-joint cases, and I learn that it has been recommended for excisions independently by Tiling and Paulet, is a long skin incision at the anterior margin of the deltoid just external to the cephalic vein, then separation of the most anterior fibres of the deltoid just beneath this incision, and lastly, a cut two or three inches long through the deltoid at least half an inch below the clavicle and acromion. In this way both the glenoid and the humeral head, both the old and the new scapular articular surfaces, can be reached; and, at the same time, the nerve-supply of the deltoid is not injured.) 9. Whenever the act of operating is suspended temporarily—e.g., to attempt reduction by manipulation or

by extension—the field of operation should be covered by gauze. 10 Care should be taken beforehand that every instrument which can possibly be wanted is ready in its proper dish, especially the strong, wide-open, blunt hooks and the dynamometer. There should be a hook at each end of each instrument so that there may be something to pull at as well as something to pass round the neck of the humerus and round the neck of the scapula. If these hooks are curved much they are difficult to get into position; indeed, I found it impossible to place them rightly for this reason in one of the cases in which I tried unsuccessfully to effect reduction. In my second successful case I used as a hook a powerful pair of forceps. Possibly a very strong lever, somewhat spoon-shaped at one end and one and a half feet long, would prove useful.

One preparation for the operation should be placing the skiagram in a good light and in a position convenient for the operator to inspect it without going far from the operating table. If there is a bystander who will kindly take charge of it so much the better. The skin and fat should be incised first and the anterior edge of the deltoid should then be made out so as to go through the muscle posterior to it. The transverse cut through the deltoid should be about an inch from the clavicle so as to leave something to attach the buried sutures to. The coracoid process should be divided and turned down with the attached muscles and after division of any covering fat and fascia it will be possible to examine the new capsule and its relations and also to feel what occupies the glenoid cavity. The next step depends on what has happened to the greater tuberosity. If it and the muscles inserted into it are intact the tuberosity should be separated with a chisel. (This and the coracoid are to be sutured on again after the reduction.) But if either the tuberosity or the muscles have been torn off, the structures covering or filling the glenoid must be reflected outwards so as to empty that cavity. It may be found that they are very loosely attached to the bottom of the glenoid though firmly fixed to its edge. The long head of the biceps should be spared. The glenoid having been cleared and made as smooth as possible the next step is to free the humeral head. In a comparatively recent case this may be easy—indeed, circumduction may suffice to do it. But in older cases it is a measure requiring caution for two reasons: (1) axillary vessels or nerves may be adherent to the humerus; or (2) if in order to avoid all risks to those structures the operator cuts or rasps too close to the bone he may provoke necrosis. However, the head and neck of the humerus *must* be freed and the axillary vessels and nerves *must* be taken care of and I do not think there is much risk of necrosis if reasonable care be taken of the periosteum and if stringent antiseptic precautions be adopted.

The new capsule or the mass of adhesions which surround the head of the humerus should be freely incised longitudinally in front and also transversely right up to the anterior edge of the glenoid. A new joint may be thereby discovered or the head of the bone may be found everywhere adherent. The head of the bone may also be seriously altered in shape and with osteophytes adherent. It may require a little trimming. There can be no hope of a painless joint if any osteophytes are left projecting on the joint surfaces. The gouge should be used and *a depression substituted for every projection*. Osteophytes round the head or anatomical neck can be trimmed off with a chisel or cutting forceps.

Next comes the attempt at reduction. The surgeon and his assistants having protected their hands with aseptic towels the trunk should be fixed and the steps of Kocher's method carefully and patiently gone through, the elbow being carried well backwards and inwards, as it were, towards the spine. If this fails the hooks should now be put in place—one round the neck of the humerus, the other round the neck of the scapula. The assistants should pull steadily and strongly on these while the surgeon repeats the steps of Kocher's method. If this also fails the hook round the neck of the humerus should be left *in situ* and my fracture extension machine used in conjunction with it, not forgetting the dynamometer. If any muscle, tendon, or fascia seems to be obstructive—e.g., the long head of the biceps—it may be divided, preferably in an oblique or in a zigzag manner, so as to facilitate restoration by suture after the reduction. During strong extension the pulse and breathing should be vigilantly watched.

If all these efforts are unsuccessful excision should be done. It will generally suffice to saw through the anatomical neck. The stump left by removing the head must be carefully trimmed with saw, chisel, or bone forceps. It should then be placed in the glenoid and now, if desired, gold plate can be wrapped round it to prevent it from adhering to the glenoid until, in about five weeks, both are made comparatively smooth by natural processes. The gold plate should be pressed well down around as well as on the top of the stump.

The following directions apply to those cases in which the dislocation has been reduced and also to those in which it has been found necessary to excise the humeral head. If the greater tuberosity has been chipped off and not removed it should be wired to the humerus and will materially help to keep that bone in place. The wound should be carefully dried and every cavity cleared of clots and, still more carefully, of loose bony fragments. As few ligatures as possible should be used. The cavity from which the head of the bone has been shifted should be gently packed with a broad sheet of iodoform gauze, not with a mere narrow strip. An ample opening should be left in the skin wound to permit this gauze to be changed. A small rubber tube should be carried to the bottom of the wound alongside this gauze packing. It should have no lateral perforations; its use is to permit lotion to be dropped or gently syringed down it to loosen the gauze at the dressing. A tube is no sufficient substitute for the gauze packing. The displaced muscles should be replaced and united with a few interrupted catgut sutures, of course leaving room for the gauze packing to pass through.

If no gold leaf[1] is used the gauze packing may be diminished in size at each dressing until it is dispensed with altogether in about a fortnight. If gold leaf is left it will be safer to keep a strip of gauze in till the removal of the gold and for a few days longer. Should the wound then not quickly heal the cause will be a catgut knot or the silver wire re-uniting the coracoid. It may be found convenient to defer wiring the coracoid until the gold plate is taken out; packing and repacking the abnormal joint cavity beneath it will thus be made easier.

As soon as ever the wound is healed, if no gold plate is used, or a fortnight after the plate is removed, is a suitable time to commence passive movements. Abduction should be avoided for a long time (months), and however much the elbow is carried backwards or forwards, up or down, or rotated, it should be kept as near as possible to the mesial plane of the body. In another week or fortnight the patient should commence to exercise himself with a Whiteley's exerciser or with a stout cord passed over a single pulley in the ceiling and with one end of the cord in each hand.

All iodoform gauze used should be kept in 1 in 20 carbolic lotion, but that lotion should be carefully washed out with plenty of 1 in 2000 warm sublimate solution just before the gauze is used.

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[1] This should be gold "plate," of gauge 0·75. It should be carefully weighed before insertion and after removal and may be had of Messrs. Wellby, Garrick street, Covent-garden, who will, if required, re purchase it after use.

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A Clinical Lecture
ON
THE TREATMENT OF DIABETES MELLITUS.

Delivered at the Manchester Royal Infirmary on July 8th, 1903.

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GENTLEMEN,—In the milder forms of diabetes mellitus medical treatment is often followed by great improvement; but in the severe forms, especially in young patients, treatment is usually very unsatisfactory. In the present state of knowledge there is no single method of treatment suitable for all cases of diabetes, each case should be treated according to the form of the disease. In trying to estimate the value of any method of treatment it is important to bear in mind that in some of the mildest cases the sugar excretion occasionally ceases temporarily, apart from the influence of any drug or special diet. The occurrence of complications, such as phthisis or nephritis, may also cause a diminution of the sugar excretion, which is liable to be attributed to the medical treatment. Further, it is important to distinguish between the results due to dietetic treatment and those due to drugs.

For therapeutical purposes three forms of diabetes mellitus may be recognised—(1) the *mildest* form, in which the sugar excretion ceases when a rigid diet of nitrogenous and fatty food is given; (2) cases of *medium severity* in which the sugar excretion does not cease when a rigid diet is given (in these two forms the urine gives no reaction with perchloride of iron); and (3) the *most severe form*, in which the urine gives a brownish-red coloration with perchloride of iron and in which a rigid diet also fails to arrest the sugar excretion.

In conducting the treatment of a case of diabetes it is of importance to distinguish the form of the disease; also, the lungs should be examined for signs of phthisis, the heart for signs of dilatation or other affections (especially in elderly patients), and indications of nephritis or other complications should be carefully noted. The weight should be taken periodically and the amount of urine and the sugar excretion should be ascertained daily in hospital practice and once a week or at longer intervals in private practice. Also, the condition of the bowels should be noted.

[In making accurate observations on the dietetic treatment of diabetic hospital patients the total value of the food in calories is often calculated. From this the value in calories of the sugar lost in the urine is subtracted: the remainder should not be less than 2300 calories. This is the value in calories of the food required daily by a healthy man.]

In the forms of diabetes in which the urine gives no reaction with perchloride of iron the action of a rigid diet should be tried. In the most severe forms of diabetes, in which the urine gives a well marked reaction with perchloride of iron, the effects of a restricted diet may also be tried; but I do not think it is desirable to cut off *all* of the carbohydrates in such cases for a long period for the purpose of trying the action of an absolutely rigid diet.

The *dietetic treatment* of diabetes should vary according to the form of the disease. In the *mildest forms* a rigid diet of nitrogenous and fatty food causes the sugar excretion to cease. In some cases after this rigid diet has been continued for a short time the patient can take a small amount of carbohydrate food in the form of bread without the sugar returning in the urine. In such cases the amount of bread should be steadily increased until the maximum amount is reached which the patient can tolerate without the glycosuria returning. The diet which is *just sufficient* to arrest the sugar excretion is that which should be prescribed. In other cases the addition of a small amount of bread or other carbohydrate to the rigid diet always causes sugar to reappear in the urine. But after the patient has had a rigid diet for many weeks or months he often refuses to continue it longer; in other cases it may be found that he is losing weight markedly. It may then be necessary to relax the diet, especially as regards bread, and we must be content if by a moderate restriction of the carbohydrates we can keep the daily excretion of sugar down to about 500 grains. In the *second form* the most rigid diet does not arrest the sugar excretion but the urine gives no reaction with perchloride of iron. A strict diet may be tried for a time but if the patient rapidly loses weight and the general condition becomes worse the addition of a small amount of carbohydrate food in the form of bread may be desirable. In the third or *most severe form*, in which the urine gives a dark brownish-red colouration with perchloride of iron, I believe a very rigid diet is sometimes injurious and that it is better to allow a small amount of carbohydrate food in the form of bread. In cases of the second and third forms, when an absolutely rigid diet is not desirable, all articles of diet containing sugar should, of course, be avoided and the starch-containing food always greatly diminished. (It is only right to mention that some English physicians still hold that a very rigid diet is advisable in *all* forms of diabetes.)

As regards the separate articles of diet, most kinds of nitrogenous animal food and fatty food may be allowed in diabetes. Of the carbohydrates starch is less injurious than sugar. (The suitable articles of diet were indicated in the diet tables shown at the lecture.) Bread is the article of diet which causes the greatest difficulty in the dietetic treatment of diabetes since it contains so much carbohydrate (49 per cent.). Most diabetic patients require some form of bread and various substitutes for white bread have been employed. Very many of these are almost useless on account of the large amount of starch which they contain or on account of their disagreeable taste or high price. In some cases it is best to allow a very small amount of ordinary white bread. In other cases where a rigid diet is desirable it is better to replace a portion, or the whole, of the ordinary bread by some suitable bread substitute. Home-made bread substitutes are to be preferred for many reasons and it is always best to test the preparations with a few drops of iodine solution in order to form a rough estimate as to whether they are loaded with starch or not. The bread substitutes which I have found most trustworthy are protene bread, casoid and casoid meal bread, and aleuronat and cocoanut biscuits. Protene is an albuminous substance separated from milk; bread can be prepared from it according to the following directions:—

Four ounces of No. 2 Protene,[1] two ounces of butter, two eggs. Beat all together thoroughly. Divide so as to form eight small cobs. Bake in oven.

This bread is practically free from starch and has often a marked action in diminishing the sugar excretion. Thus in a case of mild form of diabetes at the Ancoats Hospital in which the sugar excretion, apart from treatment, had been stationary for a long period, the following were the results of replacing white bread by protene bread:—

	Average daily excretion of sugar.
Rigid diabetic diet + eight ounces of white bread daily for seven days	1845 grains.
Rigid diabetic diet + eight ounces of protene bread daily for seven days	694 ,,
Rigid diabetic diet + eight ounces of white bread daily for seven days	1730 ,,

No drugs were taken during the period of observation.

[1] No. 2 Protene can be obtained from the Protene Co., 56, Wellbeck-street, London, W.

Two other forms of diabetic bread are very useful—casoid bread and casoid meal bread.[2] Both are practically free from starch and sugar and are thoroughly reliable. These preparations are composed chiefly of casein. Chemical analysis (by E. J. Parry, B.Sc.) shows that the casoid meal bread contains 38·9 per cent. of proteids and 13·9 per cent. of fat. Some diabetic patients prefer the protene bread, some the casoid meal bread, and many like the casoid bread best. I think the patient may be safely allowed to take the one he likes best or to combine them in any way as all three specimens are quite satisfactory.

Aleuronat and cocoanut cakes are also of service.[3] They may be prepared in the following manner. Two ounces of desiccated cocoanut powder are mixed with a little water containing a small quantity of German yeast. The mass is then formed into a paste and this is kept for half an hour or longer in a warm place. The small amount of sugar contained in the cocoanut is almost entirely decomposed by the fermentation produced by the yeast and the cocoanut paste becomes spongy. Two ounces of aleuronat, one egg beaten up, and a small quantity of water, in which a little saccharin or saxin has been dissolved, are now added to the cocoanut and the whole is well mixed until a paste is formed. This is spread out on a tin and divided into cakes which are baked for 20 or 30 minutes. In a case of diabetes of medium severity I found that the daily sugar excretion was reduced by 2000 grains and the daily amount of urine by 80 ounces when aleuronat and cocoanut biscuits were given in place of white bread. Almond or cocoanut biscuits can also be prepared according to the directions just given, aleuronat being omitted and only cocoanut powder or almond flour being used.

Milk contains about 4 per cent. of objectionable milk sugar, but it also contains a large percentage of valuable fat and albumin. Cream contains less milk sugar and about seven times the amount of fat; it may be allowed in all forms of diabetes. In some cases of diabetes ordinary milk does not increase the sugar excretion; in such cases it may be allowed freely. In other cases milk increases the sugar in the urine and in these cases a substitute is desirable. I have prepared an artificial milk, practically free from sugar, which may be taken in unlimited quantities by diabetic patients in all forms of the disease. Four tablespoonfuls of cream are added to a pint of water and well mixed. The mixture is allowed to stand in a cool place. At the end of 12 hours the fat of the cream will have floated to the surface. (It can be skimmed off with a teaspoon and on examination it will be found practically free from milk sugar which will remain dissolved in the pint of water.) The cream fat is skimmed off from the surface of the water in the first vessel and then placed in another vessel, and to it are added water, the white of an egg, and a little salt (and a trace of saccharin if desired). A palatable artificial milk can thus be prepared which is practically free from milk sugar. (The egg albumen may be omitted or added according to the patient's preference.) A sugar-free milk (prepared according to the directions given by Dr. R. Hutchison) can also be obtained,[4] which is of much service to diabetic patients; it may be diluted with water or soda-water.

As regards beverages those which are free or almost free from carbohydrates can be taken (indicated in the diet sheet shown at the lecture). I believe that ordinary beer and many non-alcoholic forms of beer are injurious. Also it is desirable that the amount of alcohol in the form of spirits should be very limited, especially in the milder forms of the disease.

Many patients suffering from the milder forms of diabetes derive much benefit from a visit to Carlsbad or Neuenahr. It is difficult to estimate what share the drinking of the waters of these spas may have had in the causation of improvement. But it appears probable, from the observations of continental physicians, that the drinking of the waters at the spas whilst *hot* from the spring has some effect in diminishing the sugar excretion. In the severe forms of diabetes a visit to these spas is useless and often the long journey has a most injurious effect on the patient.

[2] Prepared by Messrs. Callard and Co., Regent-street, London.

[3] Aleuronat is a vegetable albumin, first recommended for diabetic patients by Professor W. Ebstein. Recently he has employed other forms of vegetable albumin, ergon, roborat (recommended by Loewy and Pickardt), and casein (recommended by Schreiber). See Handbuch der praktischen Medicin: Ebstein and Schwalbe, Stuttgart, 1901.

[4] This milk can be obtained from Messrs. Clay, Paget, and Co., 23, Ebury-street, Eaton-square, London, S.W.

TREATMENT BY DRUGS.

Whilst it must be admitted that we have no specific remedy for diabetes I believe that several drugs have a distinctly beneficial action. I think I have demonstrated clearly that two drugs at least—salicylate of sodium and aspirin, given separately or combined—have a definite action in diminishing the sugar excretion in *certain* cases of diabetes of the milder forms. These conclusions are based on many observations made on cases of diabetes in the wards of the Ancoats Hospital. The patients have first been kept for ten or 14 days or longer on ordinary hospital diet or on a diet similar to that which they were taking before admission to the hospital. During this period no drug has been given except a few minims of peppermint water and the sugar excretion has been determined daily. It has thus been possible to estimate the constant sugar excretion apart from drug treatment. Then for a period of two or three weeks or longer salicylate of sodium or aspirin has been given. The sugar excretion has diminished. The drug has been then discontinued and peppermint water given (the diet being kept unaltered). The sugar excretion has increased. Similar observations have been repeated on the same patient, sometimes on many occasions, with the result that whilst the salicylate of sodium or aspirin was being taken the sugar excretion has diminished. I have published records of such cases in 1901 and 1902.[5] Since these dates I have had similar favourable results in other cases of the mild forms of diabetes in hospital and private practice. (Charts showing the good effects of these drugs on the sugar excretion were shown at the lecture. In some of the cases the lecturer was indebted to Dr. F. G. Hack and previous house physicians at the Ancoats Hospital for assistance in the sugar estimations.) The diminution of the sugar excretion has not been due to the occurrence of any complications and the patient has felt quite well whilst taking the drugs.

Neither sodium salicylate nor aspirin is a specific for diabetes. I have never found any definite diminution of the sugar excretion under the action of these drugs in the most severe forms of the disease; also in some of the milder forms they have not had any marked effect; but in other cases of the milder forms I believe I have obtained conclusive evidence of their beneficial action. As regards the mode of administration, I have usually given sodium salicylate in peppermint water, commencing with ten grains three times a day and increasing up to 15 grains three, four, or sometimes five times a day if necessary. With large doses it is important to watch for toxic symptoms and to discontinue the drug if these occur. Pure natural sodium salicylate is the better preparation. Aspirin is best given as a powder—ten grains twice a day, rapidly increasing the dose up to 15 grains four or even five times a day. It is best to order the aspirin powder to be taken in a little water to which a drop of lemon juice has been added. Soda-water or alkalies should *not* be taken just after the aspirin powder, otherwise the drug would be liable to decompose in the stomach and cause gastric symptoms. Some patients take the sodium salicylate better than aspirin; others take aspirin better. This latter drug is less liable to cause toxic symptoms in large doses. Sometimes cases are met with in which one of these drugs can be taken but not the other. Recently, I have often combined the two drugs with good results, giving sodium salicylate up to 15 grains three or four times a day and one powder of aspirin, 15 grains, at night. Whenever the two drugs are given it is important to commence with small doses and steadily to increase the quantity, watching for bad effects.

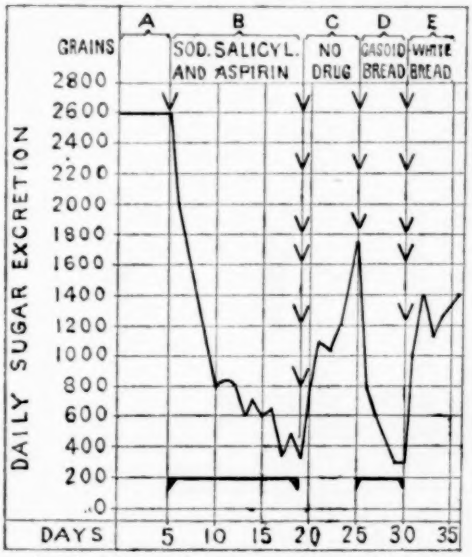
By a restricted diet, by the use of casoid or protene bread, sugar-free milk, &c., along with the administration of salicylates or aspirin, often satisfactory results can be obtained in the milder forms of diabetes. (See chart at the end of this article.) The salicylates and aspirin are of service especially, because they often enable satisfactory results to be obtained without the employment of an absolutely rigid diet. Cases are, however, sometimes met with in which salicylate and aspirin cannot be taken owing to the disagreeable symptoms that they produce even in small doses.

Many other drugs have been used in the treatment of diabetes, and it is probable that opium, morphia, codeia, sumbul, uranium nitrate, arsenic, and antipyrin have in certain cases some beneficial effect. An objection to the first three drugs is their constipating action, and this is

[5] Brit. Med. Jour., March 30th, 1901, and Dec. 27th, 1902.

especially undesirable in the most severe forms of the disease, since constipation appears to predispose to the onset of coma. It is important, therefore, when these drugs are given that care should be taken to keep the bowels regular. In the most severe forms of diabetes, in which the urine gives a deep brownish-red colouration with perchloride of iron, I believe the alkaline treatment, bicarbonate of sodium in large doses, is of some service in postponing the onset of coma. The dose should be steadily increased up to two, three, or four drachms or more daily. The bicarbonate is best taken in frequent doses in soda-water or milk. It is very important not to produce gastric disturbances by the sodium bicarbonate, but it is remarkable how well these large doses are usually taken by diabetic patients.

CHART SHOWING INFLUENCE OF SALICYLATES AND ASPIRIN, AND ALSO OF A RIGID DIET, ON THE SUGAR EXCRETION IN DIABETES.



A, Period of 20 days, five only represented on the chart. Ordinary hospital diet, including usual amount of white bread and milk but excluding potatoes and sugar, which had not been taken for several years. Peppermint water one drachm three times a day. Sugar excretion practically stationary: average 2690 grains daily. On the twentieth day sugar excretion 2626 grains. B, Diet kept the same. Sodium salicylate 15 grains four times a day + aspirin 15 grains at night. Sugar excretion diminished to 370 grains. C, Diet kept the same. Sodium salicylate and aspirin discontinued, peppermint water given. Sugar excretion increased up to 1710 grains daily. D Diet kept the same except that white bread was replaced by casoid meal bread. Peppermint water. Sugar excretion diminished to 360 grains daily. E, Diet kept the same except that casoid meal bread was replaced by white bread. Peppermint water. Sugar excretion increased up to 1400 grams daily. [Case of mild form of diabetes mellitus of ten years' duration. On admission to hospital: urine, specific gravity 1036; amount, 94 to 104 ounces daily during first week.]

ISOLATION HOSPITAL FOR TEIGNMOUTH.—At the meeting of the Teignmouth (Devon) urban district council held on Jan. 12th it was decided to apply to the Local Government Board for sanction to borrow £7100 for the purposes of purchasing land for the erection of an isolation hospital and other improvements for the town. The hospital is to be erected at an estimated cost of £2470.

LARYNGOLOGICAL SOCIETY OF LONDON.—At the twelfth annual general meeting of the above society, held on Jan. 15th, the following were elected officers for the ensuing year:—President: Dr. P. McBride. Vice-Presidents: Mr. A. A. Bowlby, Dr. Percy Kidd, Mr. Charters J. Symonds, and Dr. W. Milligan. Honorary treasurer: Mr. W. R. H. Stewart. Honorary secretaries: Dr. E. Furniss Potter and Dr. P. R. W. de Santi. Council: Dr. W. Permewan, Mr. R. Lake, Mr. L. A. Lawrence, Dr. L. H. Pegler, Dr. J. Walker Downie and Dr. James Donelan. In the evening the annual dinner of the society was held at Prince's Rooms, Piccadilly.

ON CERTAIN NEW METHODS OF BLOOD EXAMINATION WITH SOME INDICATIONS OF THEIR CLINICAL IMPORTANCE.

BY A. E. WRIGHT, M.D. DUB.,
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AN exhaustive examination of the blood is impossible with the present methods of collecting blood from the patient. When the blood is collected into tubes or capsules and is allowed to clot there the serum alone becomes available for examination. When blood films only are prepared we are confined to a histological examination of the corpuscular elements. When, lastly, blood is drawn off into a diluting fluid for the enumeration of the corpuscles we are tied down to this particular examination. These limitations can be transcended by drawing off the blood into a calibrated capsule charged with a measured quantity of citrate of soda solution. The blood thus prevented from clotting furnishes for our examination all the different blood-elements: red corpuscles, white corpuscles, blood-platelets, and plasma. The red corpuscles are furnished in a form in which they can be employed indifferently for histological examination and for quantitative estimation. Even more than this is achieved in the case of the white corpuscles. These are furnished in a form which admits not only of their histological examination and enumeration but also of the measurement of the phagocytic power which accrues to them in the plasma or as the case may be in any other medium which may have been substituted for this.

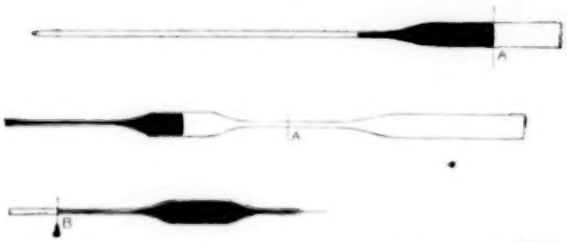
Method of collecting blood into a calibrated capsule charged with a measured volume of citrate of soda solution.—The capsule with recurved limb already figured by me in previous papers[1] is the form of capsule best adapted to the procedure described below. For the purpose here in question it is charged with a quantum of citrate of soda such as suffices to keep the blood which is received into it liquid. The capsule is further furnished with a fiduciary mark to indicate the point to which it is to be filled in with blood. The calibration of the capsule and the filling in of the measured charge of citrate of soda solution can be accurately and expeditiously carried out by the aid of a pair of automatic pipettes. The respective cubic capacities of these are so adjusted as to stand to each other in the quantitative relation which is to obtain between the blood and the citrate of soda solution.

Method of making the automatic pipettes.—The smaller of the two automatic pipettes is made as described in a previous paper in THE LANCET.[2] The procedure is varied only in the respect that 50 cubic millimetres, more or less, in lieu of 5 cubic millimetres, of mercury are employed and in the respect that the orifice of the pipette is in the course of construction drawn out into a point in the flame of a peep light. The larger automatic pipette which serves for calibrating the blood capsule is made in the following way.

A piece of glass tubing is taken in hand. It is drawn out into a roomy capillary stem and this is again drawn out into a sharp point. By the aid of the smaller automatic pipette a volume of mercury corresponding approximately to 300 cubic millimetres and accurately to six fills of the smaller pipette is introduced into the neck of the tube. The mercury is allowed to pass down some little distance into the capillary stem, as shown in Fig. 1. A fiduciary mark (A Fig. 1) is now placed upon the barrel of the tube to mark the upper limit of the mercury. This done the mercury is allowed to run down into the capillary stem so as to leave vacant the upper end of the tube in the region of the fiduciary mark. The tube is now introduced into the blow-pipe flame and is drawn out in such a manner as to bring the fiduciary mark into the position indicated by A in Fig. 2. The narrow tube thus obtained is by the aid of the flame of a peep light drawn out at the fiduciary mark into a tube of such fineness as to be impervious to mercury while remaining patent to air. This done the glass is allowed to cool down. The next step is to bring back the mercury into the bulb of the pipette, as shown in Fig. 3, and to place a mark B upon the capillary stem at the lower limit of the mercury column. The measuring tube is completed by drawing out the capillary stem at the point indicated by the mark B and breaking it off there so as to obtain a pointed extremity. A thick layer of sealing-wax is now applied to the neck of the bulb. This effected, a covering tube is prepared by drawing out a piece of wider tubing and breaking it

[1] Brit. Med. Jour., Feb. 5th, 1898; Proceedings of the Royal Society 1902; THE LANCET, July 26th, 1902, p. 214.
[2] Thrombosis in Typhoid Fever, THE LANCET, Dec. 6th, 1902, p. 1531.

FIGS. 1, 2, 3.



across just below the neck. Into this covering tube we insert the measuring tube from above and draw the capillary stem down through the neck. Finally, we apply heat in such a manner as to melt the sealing wax and to make an air-tight joint (Fig. 4).

FIG. 4.

Method of calibrating the blood capsule and charging it with the citrate of soda solution.—Having broken off the points of both the recurved and of the straight limbs of the blood capsule the larger automatic pipette is taken in hand. Placing a rubber teat over the upper end and making pressure upon this a negative pressure is established in the interior. The orifice of the automatic pipette is now inserted into a reservoir of mercury and the metal is allowed to flow in until the bulb is full. When this has been accomplished the point of the pipette is withdrawn from the mercury and is brought in contact with the orifice of the recurved limb of the blood capsule (Fig. 5). By pressing upon the teat the

FIG. 5.

mercury is in an almost automatic manner transferred to the capsule. The mercury in the blood capsule is shaken together and the capsule is tilted in such a manner as to bring a column of mercury back to the neighbourhood of the orifice through which it was introduced. The height at which the mercury is standing in the recurved limb and in the barrel of the capsule is now marked off with a glass writing pencil. The smaller automatic pipette is now taken in hand (Fig. 6). A negative pressure having been established in its interior a small bead of mercury is drawn into the orifice of the tube. The point of the pipette is then transferred from the vessel of mercury to a vessel containing a 4 per cent. citrate of soda solution made up in physiological salt solution. On relaxing the pressure on the teat the pipette sucks up the citrate of soda solution until the bead of mercury which is carried up in front of the column of fluid arrives at the terminal hair-fine tube and there establishes a block which prevents any further intake (Fig. 6). The

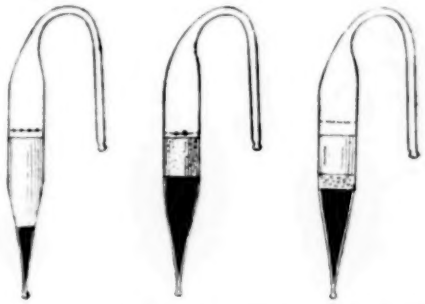
FIG. 6.

point of the pipette is now applied to the orifice of the recurved limb, pressure is made on to the teat, and the watery fluid transfers itself to the capsule in an even more automatic manner than was the case with the mercury. The charged capsule may either be immediately employed or its ends may be sealed and it may be put aside till required.

Method of filling in blood from the finger.—The extremities of the capsule having been broken off a prick is made in the side of the finger with a hypodermic needle. A handkerchief is then wound round the digit from above downwards in such a manner as to render the extremity of the finger definitely turgid. Pressure is now made upon the pulp and the blood as it emerges from the prick is received into the recurved limb of the capsule to commingle there with the citrate of soda solution. When the blood has reached the fiduciary mark the upper end of the capsule is warmed in such a manner as to rarefy the contained air. The upper limb is then immediately sealed up. As soon as the glass has cooled and the contraction of the air has drawn up the blood from the recurved limb into the body of the capsule, this last is shaken to effect thorough mixture of the citrate of soda and blood.

Appearance of the blood as it settles down in the capsule.—The advantage of the method begins to exhibit itself within a very few minutes. Figs. 7, 8, 9, which are taken from

FIG. 7. FIG. 8. FIG. 9.



actual specimens, exhibit the appearances of three different bloods. Fig. 8 represents a blood drawn from a patient suffering from Bright's disease. The volume of the corpuscular sediment is approximately normal. The plasma has a milky aspect. Fig. 7 represents blood taken from a patient the subject of extreme anæmia.[3] The characteristic feature of the blood is the small volume of the corpuscular sediment. Fig. 9 represents blood drawn from a leucocythæmic patient.[4] The exaggerated depth of the layer of white corpuscles is the salient feature. A noticeable feature also is the reduction in the red corpuscles. Equally characteristic is the appearance of the blood in cases of jaundice. Here, and the same holds true also in some cases where active hæmolysis is going on, the plasma is definitely yellow.

Further procedures.—The further procedures may be undertaken at any convenient time after the withdrawal of the blood. Opportunity is thus afforded for the conveyance of blood to the laboratory or, if need arises, for its transmission by the post. In the following I will confine myself to describing certain new developments in connexion with the methods of blood examination.

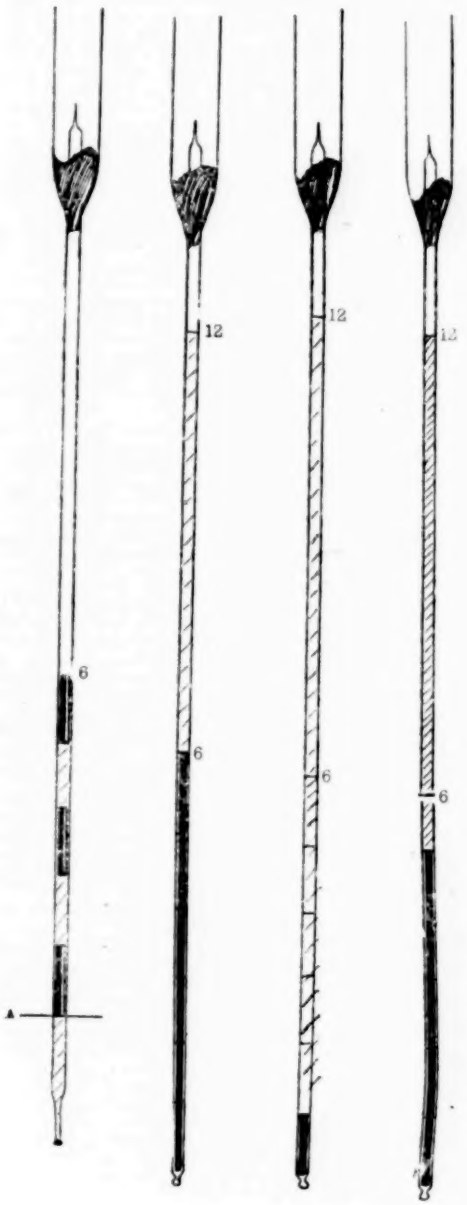
Quantitative estimation of the corpuscular elements.—The defects of the hæmocytometric method are well understood. They are summed up in the fact that the results of a blood count may deviate from the truth to practically an unlimited extent if the calibration of the apparatus is at fault or if the operator is either unwary or wanting in skill. A further regrettable feature in the hæmocytometrical method is the unsuitability of the method for purposes of demonstration. The enumerator alone can take personal cognisance of the results. The only alternative which at present offers is the measurement of the corpuscles by the hæmokrit. While the principle of this method has met with general approval its particular application in the hæmokrit is open to objection on the ground that it involves recourse to a highly-geared centrifuge and manipulation of somewhat delicate apparatus. In point of fact, nothing of this kind is

[3] The number of red corpuscles in this patient's blood, as determined by the hæmocytometer, was 650 000 per cubic millimetre.

[4] The number of leucocytes in this patient's blood—as determined by the hæmocytometer—was just over 500 000 per cubic millimetre. The diagnosis of leucocythæmia was arrived at in the course of a few minutes by the appearance of the blood as it settled in the capsule.

necessary. The volumetric measurement of the corpuscles can be carried out in a perfectly effective manner by the simple procedure of filling in citrated blood into a capillary tube which has been marked off into a series of divisions of equal cubic capacity. In the case where the result of the measurement is required with the minimum of delay the graduated stem of the capillary pipette may be broken off short at the neck and the hand centrifuge may be called into use. Ordinarily the blood may simply be left to sediment overnight. By the next morning sedimentation will be practically complete and the number of volume divisions occupied by the corpuscles can be read off at a glance. As indicated in Figs. 11 and 12 the number of volumes of corpuscles

FIG. 10. FIG. 11. FIG. 12. FIG. 13.



corresponding to ten divisions of the undiluted blood may range from one or below one in cases of very extreme anæmia to six divisions (or a little less) in the normal adult male. The following is a method which allows of the division of a capillary pipette in an expeditious manner into any desired number of divisions of equal cubic capacity.

Instructions for dividing the stem of a capillary pipette into any desired number of divisions of equal cubic capacity.—Take in hand a piece of glass tubing drawn out into a capillary stem and draw it out below into a fine point. The capillary pipette thus obtained may be employed just as it is, or it may if desired be formed into a throttled pipette similar to the pipettes shown in Figs. 10 to 13. In any case fit a tightly fitting rubber teat upon the upper end of the pipette and inscribe a mark upon the stem at a distance from the orifice corresponding to about one-twelfth of its total length. Making pressure on the teat and holding the pipette at a considerable angle to the vertical thrust the pointed end below the surface of some mercury which has been placed in a watch glass and which has been covered in with water. Now let the mercury run up and fill the tube up to the fiduciary mark A, Fig. 10, then push the point of the pipette out through the mercury into the water and let a similar volume of this last pass up into the tube. Withdrawing again the point of the pipette under the cover of the mercury, go through the whole manœuvre again until the tube has, as is shown in Fig. 10 been filled in with a series of six alternate volumes of water and mercury. This done withdraw the point of the pipette from the watch-glass and mark off with a pencil a series of six divisions. Having marked off these six (which will be all that will be required for the measurement of the corpuscular sediment), bring the series of six alternate volumes of mercury and salt solution further up into the tube, and taking off in this measurement from the sixth division inscribe upon the upper end of the capillary stem a fiduciary mark corresponding to the twelfth division.

Instructions for filling in the graduated capillary pipette with citrated blood.—Shake up first the contents of the blood capsule in such a way as to bring into suspension the corpuscles which may have settled down. Then fitting a teat to the graduated pipette draw up into it from the capsule exactly 12 volumes of citrated blood. Dealing as we are with a five-sixths dilution of the blood these 12 divisions will correspond to 10 of the undiluted blood. After rectifying the position of the column of blood in the tube, seal up the pointed extremity of the tube in the flame of a peep light and—unless in the case where the centrifuge is to be employed—place the capillary pipette upright in a rack. Figs. 11, 12, and 13 represent the appearances furnished by filling in in this manner graduated capillary pipettes respectively with normal blood and with blood from a case of extreme anæmia and a case of Bright's disease.

Preparation of blood films from corpuscular sediment.—When we desire to proceed to the histological examination of the corpuscles we may with advantage make our films either from the corpuscular sediment generally or as the case may be from a particular stratum of the corpuscular sediment, diluting in each case with such amount of plasma as may be convenient. This method of procedure enables us even in the case of the most extreme anæmias—where this is by the ordinary technique impossible—to concentrate in the microscopic field a sufficiently large number of the corpuscular elements to make an effective histological examination. The procedure promises further advantages, for judging from the fact that it is possible by diluting the blood with an equal bulk of physiological salt solution to obtain the white corpuscles separate from the red it will probably be found possible by an appropriate dilution of the blood to bring together into a particular stratum of the sediment the particular elements which happen to constitute the object of our search. By this process of levigation it may, for instance, prove possible to bring together, as the case may be, red corpuscles charged with malaria parasites, nucleated red corpuscles, and free living parasitic elements of all kinds.

Method of preparing slides for the reception of blood films.—In connexion with the histological examination of the blood passing reference may appropriately be made to, perhaps, the most important factor involved in the preparation of a blood film. This factor is the preliminary treatment of the slide. Popular prejudice to the contrary notwithstanding, it will be found that the really important thing in connexion with the slide is to secure that its surface shall be rough. The polishing of the surface and the defective adherence

between the blood and the slide which results from it furnish the opportunity for the piling up of the corpuscles one upon the other under the influence of the surface tension of the fluid. The polishing of the slide is, in other words, directly responsible for the patchiness of the ordinary blood film. I find it to be a wise procedure to boil all slides in strong caustic potash until their surface has become definitely hazy. It is hardly necessary to point out that such haziness, dependent as it is upon inequalities of the surface, altogether disappears when the oil or, as the case may be, the Canada balsam is placed upon the slide.

Estimation of the quantity of blood platelets.—Milkiness of the blood fluids is a characteristic feature of the blood in many cases of diabetes and Bright's disease. It is met with also as a temporary and less conspicuous phenomenon in the healthy in the course of active digestion. This condition of the blood—it is commonly misnamed lipæmia—appears in point of fact to depend upon an extraordinary excess of blood platelets.[4] Two points of interest with regard to these may be noted—first, that blood which contains platelets in quantities sufficient to render the plasma absolutely milky is not more coagulable than ordinary blood; and secondly, that it may be possible—and this has been suggested to me by my friend, Captain Stewart R. Douglas, I.M.S.—to proceed to the enumeration of the platelets in citrated plasma. This suggestion has its justification in the circumstance that the platelets do not in the case of citrated blood run together into clumps and they remain in suspension indefinitely after the settlement of the corpuscles.

Quantitative estimation of the amount of albuminous substance in the plasma or serum.—We shall remain in ignorance with respect to the causes of many œdemas and with regard to the proper method of treating these conditions just so long as we neglect in dealing with these disorders to investigate the character of the circulating blood fluid and of the lymph. What is perhaps most urgently required for such an investigation is a method of determining the content of the blood in albuminous substances. Until a better method shall have been elaborated the following will, I think, render useful service.

Principle of the method.—The method here proposed aims at the determination of the degree of dilution to which the blood may be subjected before it loses the property of coagulating into a stiff jelly when subjected to a temperature just below that of boiling water. The apparatus required is a capillary tube, a little mercury, water at a temperature just below boiling point, and a glass-cutting knife, or in default of this a pair of small bone forceps. The material subjected to examination may be any sufficiently concentrated albuminous fluid. In particular it may be the plasma, serum, blister fluid, or pericardial, pleuritic, or ascitic effusion.

Procedure.—The first step in the procedure is to make an appropriate series of dilutions of the fluid. In dealing with blood I have commonly employed in addition to the undiluted serum dilutions of $\frac{1}{2}$ths, $\frac{1}{3}$rds, $\frac{2}{3}$rds, $\frac{1}{4}$ths, and $\frac{3}{4}$ths. A series consisting of undiluted serum and in association with this $\frac{1}{2}$ths, $\frac{1}{3}$rds, $\frac{2}{3}$rds, $\frac{1}{4}$ths, and $\frac{3}{4}$ths dilutions of serum would be more appropriate.

The dilutions first spoken of are made as follows. The stem of a capillary pipette is, by the method already described above, divided into six equal divisions. By the aid of a rubber teat this tube is filled with serum up to the fifth division. One volume of physiological salt solution is then aspirated into the tube and the whole is blown out and mixed upon a glass slide. Four volumes of this mixture are re-aspirated into the tube and an additional volume of diluting fluid is added. This furnishes a dilution of $\frac{1}{2}$ths. After it has been mixed upon the slide three volumes of the mixture are re-aspirated and again an additional volume of salt solution is added, furnishing a $\frac{2}{3}$rds dilution. Of this, two volumes are re-aspirated into the tube and a third volume of diluting fluid is added. This furnishes a $\frac{1}{3}$rd dilution. Lastly one volume of this dilution is re-aspirated and it is diluted with one volume of salt solution furnishing a dilution of $\frac{1}{4}$th.

The alternative series of dilutions above referred to would be prepared either on exactly the same principle as above or as follows. By taking three volumes of serum and adding one of diluting fluid, then taking two of the $\frac{1}{2}$ths serum and one of diluting fluid, and lastly, by taking one of $\frac{1}{2}$ths serum and one of diluting fluid we obtain a series of dilutions corresponding to $\frac{1}{2}$ths, $\frac{1}{3}$rds, and $\frac{1}{4}$th serum. Taking this preliminary series of dilutions and, in addition, undiluted serum we proceed to obtain the intermediate dilutions as follows. Mixture of equal volumes of undiluted serum and $\frac{1}{2}$ths serum would give us $\frac{1}{3}$rds serum mixture of equal volumes of $\frac{1}{2}$ths serum and $\frac{1}{3}$rds serum would give us $\frac{1}{4}$ths serum, and mixture of equal volumes of $\frac{1}{3}$rds serum and $\frac{1}{4}$th serum would give us $\frac{2}{3}$rds serum.

Having obtained the appropriate series of dilutions our next step is to draw up these progressive dilutions into a capillary inspissation tube and to separate them off one from the other. Our graduated tube may do service as our inspissation tube or we may employ for this purpose any other capillary tube which has been drawn out at its extremity into a sharp point. In either case we proceed as follows. We draw up first one volume of the highest dilution, then carefully avoiding, here and at all subsequent stages of the procedure, the intrusion of bubbles of air we draw into the point of our pipette a pellet of mercury of sufficient size to divide off securely from the next dilution of serum. We in this way take up into the tube the whole series of dilutions of serum, dividing off in each case by mercury. This process accomplished we seal the point of the tube in the flame, taking care as we do so not to include any appreciable quantity of air. We now plunge our inspissation tube into a vessel of water which has just begun to cool down after having been brought to the boil. After waiting from three to four minutes we withdraw our tube from the water and fit to its upper end a rubber teat in the collapsed condition. Leaving the negative pressure thus generated to do its work uncontrolled and taking the tube into one hand and a bone forceps into the other we proceed to snip off the point of the pipette. By so doing we ascertain whether the clot which has been formed in the undiluted serum is or is not competent to resist the pressure of the atmosphere. If it holds fast we snip away the capillary stem piece by piece. As our successive lines of section traverse the successive mercury pellets we take note in each case that we are passing from one dilution of the serum to the other. Finally, we arrive at the point where the coagula proximal to the line of section yield to the negative pressure. When this happens and the column of clotted fluid is carried up into the expanded end of the pipette we take note of the fact that we have exceeded the limits of dilution in which the serum when coagulated by heat offers effectual resistance to the pressure of the atmosphere. Tested by the above method the blood of normal male adults gives a resistant clot in a maximum dilution of four sixths to three-sixths.

Remarks on the above method.—While the method described above makes no pretence to absolute accuracy it will be found, when put to the test, by making a series of successive estimations of any sample of blood, to yield very concordant results within the range of calibre which is dictated, on the one hand, by considerations of the amount of serum ordinarily available and, on the other hand, by the limit imposed by the considerations that the capillary tube must not be so fine as to offer sensible resistance to the passage of fluids nor be so weak as to be incapable of resisting ordinary strains. In connexion with the clinical application of the method it may be interesting here to call attention to the information which was furnished by the method in a case of œdema of the feet which was when first seen supposed to be referable to double femoral thrombosis supervening upon typhoid fever. In this case the method of examination here in question revealed that the content of the blood in albuminous substances was reduced to the point at which the clot formed by heating the undiluted serum was quite incompetent to resist the pressure of the atmosphere. The same held true of the lymph obtained by the application of a blister. In view of the unlikelihood of thrombosis occurring under such conditions, and further, in view of the negative result of Widal's test, the treatment by citric acid which had been inaugurated with a view to limiting the extension of the presumed clot was abandoned and magnesium sulphate was administered with a view to concentrating the blood. Under this treatment the œdema rapidly disappeared and the serum yielded on heating a resistant clot.

Estimation of the content of the plasma in fibrinogen.—In concluding this paper reference may be made to the circumstance that an estimate of the amount of fibrinogen in the plasma can be formed by the very simple device of heating citrated plasma in a tube up to a temperature of 60° C. The plasma in hæmophilia when examined by this method yields, as compared with the normal plasma, a notably diminished volume of fibrinogen.

Lower Seymour-street, W.

[4] The identification of the particulate matter in milky plasma with blood platelets is warranted by the characteristic staining reaction obtained with Leishman's stain.

QUEEN VICTORIA JUBILEE INSTITUTE.—A movement has been started in Wiltshire by the Duchess of Somerset for the establishment of a nursing association connected with the Queen Victoria Jubilee Institute.

INTRAPERITONEAL RUPTURE OF THE BLADDER IN A GIRL, AGED FIVE YEARS.

WITH SEPARATION OF THE RIGHT OS PUBIS AT ITS EPIPHYSEAL LINES: ABDOMINAL SECTION; SUTURING OF THE BLADDER; RECOVERY.

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IN September, 1901, an interesting summary of all the recorded cases of traumatic rupture of the bladder appeared by Alexander in the *Annals of Surgery* and previously to this statistical papers dealing with the same subject had been published by Kerr, in the *Annals of Surgery*, vol. xvii., 1893, and by Miles, in the Transactions of the Royal Medical and Chirurgical Society, vol. xxvii., 1895. From a perusal of these papers it will be of interest that the following case is the youngest that has been operated on (according to available records) up to date; there have been two cases of children seven years of age and one of nine years of age.

Traumatic rupture of the bladder, whether extraperitoneal or intraperitoneal, may exist alone or very frequently is attended by damage to the pelvic girdle; if the rent is extraperitoneal the broken pelvis has probably played a part in causing the wound, whereas in the intraperitoneal form it may be only an accidental associate due to the same crushing force: an accepted explanation in the latter is that it may be the crowding back of a full bladder on the sharp lumbo-sacral angle. In this particular case the bladder had been distended and from the tender years of the child was abdominal in position. Although the bladder wound in this case had an accompanying damage to the pelvis the latter did not cause it; the wheel passed obliquely over the abdomen from left to right, causing the bladder rent to be also oblique and lower on the same side as the fractured pelvis.

On March 11th, 1903, the child was playing in the road when she was knocked down by a cart, the wheel passing over her abdomen. This occurred at 2 P.M. and at 4 30 she was brought to the hospital and admitted. She was pale, restless, and very collapsed, with a feeble pulse of 128 and respirations 28, with grunting expiration. Her temperature was 97° F. Breathing was almost entirely thoracic in character bnt the upper part of the abdomen moved fairly; the lower part was rigid, moved very little on respiration, and was tender even to gentle palpation. On light percussion in the flanks there was evidence of the presence of a small quantity of intraperitoneal fluid and the whole abdomen appeared to be considerably distended. The child complained of pain and kept calling out that she wanted to pass urine but on trial she was quite unable to do so. The catheter withdrew about a couple of teaspoonfuls of nearly pure blood with a urinous odour. On manipulation of the pelvis soft crepitus could be obtained which was due to diastasis of the right os pubis at its epiphyseal lines. At 9.30 P.M., the immediate shock having passed off, the abdomen was opened by a three-inch incision in the mid-line and there was not found any blood extravasation in the cellular tissue. On incising the peritoneum a collapsed bladder was found which was brought up into the wound. On the superior surface was a rather oblique rent running from one obliterated hypogastric artery to the other side through which the mucous membrance prolapsed and out of which a few drops of bloody urine could be squeezed; on the left side the rent came right up to the lateral reflexion of the peritoneum. The flanks contained some free urine which was mopped out with sponges and the peritoneum was then cleansed with sponges dipped in normal saline solution The rent in the bladder was carefully sutured with fine silk; the interrupted stitches were inserted after Lembert's method and avoided the mucous membrane. Beyond the single row two or three extra stitches were put in where there seemed a weak spot. The abdominal incision was then closed except in its central part through which a gauze drain wrapped in green protective was passed down to the wound in the bladder. A soft catheter was placed in the bladder *viâ* the urethra. The child had some additional shock after the operation but speedily rallied when in bed. Her legs were kept tied together and no other fixation was used for the pelvis. On the 12th the drain was changed and there was a considerable amount of fluid in the dressings with a urinous odour. On the 15th the wound had been dressed daily and there was now no suspicion of any urine on the dressings. The drain was removed and a small gauze drain was put in the gap in the abdominal incision. The child's condition was first class and there was free passage of urine through the catheter which was still retained. On the 18th the drain was removed altogether and on the 19th the catheter was taken out. For some days there was some incontinence of urine which gradually passed off. On April 4th the child developed some broncho pneumonia which all cleared up at the end of a week. She remained in hospital until May 4th and was discharged walking quite well, without any difference in the length of the limbs and with perfect control of the bladder.

The history of the accident in this case and the early symptoms pointed plainly to the probable diagnosis which the passage of the catheter confirmed. Such tests as inflation with air or injecting fluid into the bladder were not utilised for, in the first place, they were unnecessary to establish the diagnosis and, in the second place, such procedures are likely to do much more harm than good by causing greater diffusion of the escaped bladder contents over the peritoneum. Such a procedure can only be of academic interest and, as Alexander says, having the idea that the bladder is ruptured, at once operate and if on exposing the front of the bladder no damage is found then open the peritoneum and search for the rent. There is nothing particular to comment on the operation. No special stitching of the mucous membrane was done; a single layer of fine silk Lembert interrupted sutures, fortified by a few more beyond, was used for the sero-muscular coat. There was no peritonitis but the case was fortunately operated on early. After cleansing the peritoneal surface I thought it safer to use a small gauze drain for a short time; it can do no harm and it may be of great service should the stitching unfortunately not hold.

The last point is one that has always been debateable—namely, the after-treatment of the sutured bladder. Excluding from the question putting a tube into the bladder suprapubically, it is a moot point whether there should be drainage per urethram or regular catherisation. Alexander has shown that of 39 cases there was an infinitesimal advantage gained by continued drainage; one thing is quite certain, both from the patient's and surgeon's standpoint, the drainage is much simpler.

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A CASE OF ACUTE SULPHONAL POISONING.

BY ALFRED E. HIND, F.R.C.S. ENG.

THE patient, a single woman, aged 27 years, had been under treatment suffering from melancholia. She had previously been five years in an asylum. She was now living with her parents while arrangements were being made for sending her to another asylum. I was called at 9 A.M. on Dec. 17th, 1903, by her father who stated that he was unable to wake his daughter and that he suspected that she had taken three bottles of sulphonal, each containing 25 tablets, five grains in each, with the exception of two tablets found in the bedroom. In all she had taken 365 grains. On arrival I found the patient comatose and unable to be roused. There was no cyanosis. She was slightly pale The pulse was 30 and feeble, the respirations were 15, and the temperature was 98° F. The corneal reflex, the knee-jerks, and the radial reflex were absent. The pupils had medium contraction and reacted sluggishly. She had spoken rationally a few words early that morning. The bowels had opened on the previous day. The patient had been in the habit of taking sulphonal for insomnia and had threatened suicide. The stomach was washed out with about a gallon of warm water which returned quite clear. A large enema of soap and water was given and retained. The urine was drawn off by catheter; it was clear and abundant. Half a pint of hot coffee was passed by a tube

into the stomach and one-thirtieth of a grain of strychnine and one-fiftieth of a grain of digitalin were injected hypodermically. The patient was visited again in the evening; her condition was unchanged except that the corneal reflex had returned. The catheter drew off about three pints of clear urine. The bowels had not acted. On the 18th she was again visited. She had roused sufficiently in the night to swallow some coffee. Three pints of urine were drawn off by catheter and a pint of hot milk with two minims of croton oil was passed by a tube into the stomach. The bowels had not opened. The patient was surrounded by hot-water bottles. In the evening the bowels had not opened and her condition was unchanged. The pulse was 100, the respirations were 15, and the temperature was 98°. Hot milk and three minims of croton oil were given by a tube which was almost immediately followed by vomiting. Some of the gastric contents being inhaled necessitated energetic treatment to restore breathing and to relieve cyanosis, under which treatment the patient roused considerably but soon relapsed into lethargy. An enema of soap with five minims of croton oil resulted in a small evacuation, chiefly enema, but some fæcal matter was present. Again three pints of urine were drawn off and a hypodermic injection of digitalin and strychnine was given as before. The patient was visited at 9 P.M.; half a pint of urine was drawn off. Her condition was unchanged. On the 19th at 10 A.M. she was cyanosed. The respirations were 30, the pulse was 112, and the temperature was 103·5°. No physical signs of pneumonia were detected but her condition was probably affected by the inhalation of the gastric contents on the previous day. She was rather more collapsed and still unconscious. She had had a nutrient enema of egg and milk which she had retained. Hypodermic injection was given as before. At 1 P.M. the respirations were 40, the pulse was 130 and the temperature was 103°. One pint of urine was drawn off. One-thirtieth of a grain of strychnine was given hypodermically. At 6·30 P.M. the respirations were 44, the pulse was 130, and the temperature was 103·8°. Three quarters of a pint of urine were drawn off. One-thirtieth of a grain of strychnine and one-sixtieth of a grain of digitalin were again given. The patient showed a slight return of consciousness. She had retained the nutrient enema of milk and egg and had spoken a few inarticulate words during the day. After the hypodermic injection the respirations fell to 30, the pulse to 112, and the patient had a better appearance. On the 20th the respirations were 32, the pulse was 112, and the temperature was 103·8°. One pint of urine was drawn off. The cardiac action was much stronger. The radial reflex and the knee-jerks had returned. The patient now appeared to notice her surroundings. The bowels had opened slightly. The nutrient enemata were retained. A cert in sweet chloroform-like odour had been noticed in the breaths since the first visit and lately also in the urine. The bladder remained in an atonic state and air entered after the urine was expelled by pressure on the abdomen. At 6·30 P.M. the pulse was 90, the respirations were 20, and the temperature was 100°. She was slightly restless and had been trying to get out of bed. She had passed urine under her and the bowels had opened slightly. She had spoken incoherently during the day at intervals. On the 21st she had a restless night and was more conscious. The pulse was 80, the respirations were 20, and the temperature was 99°. The catheter drew off one and a half pints of urine. The bowels had opened slightly. She retained the nutrient enemata and had taken fluids by the mouth. At 6 P.M. the pulse was 80, the respirations were 25, and the temperature was 99·4°. She was steadily regaining consciousness. Her speech was staccato and cerebration was slow. The catheter drew off three quarters of a pint of urine. On the 22nd the pulse was 80, the temperature was 98·4°, and the respirations were 15. She had been upon the stool but the bowels had not opened. She still took food by the mouth and had passed urine normally. She volunteered the information that she swallowed the above amount of sulphonal at 11 o'clock on the evening of the 16th with suicidal intent. On the 23rd the pulse was 80, the respirations were 15, and the temperature was 99·4°. The bowels had opened. The catheter drew off three-quarters of a pint of urine; she was menstruating. She was much quieter and taking food fairly by the mouth. Four drachms of sulphate of magnesium were given in the morning and repeated in the evening. On the 24th she was still improving. The bowels had opened twice. She passed urine on the stool: the catheter drew off four ounces only. She was taking food better. The pulse was 80 and the temperature was 98·4°. She slept well. Speech and cerebration were very little altered. On the 25th she had markedly improved. Her speech was clear and cerebration was most active. The bowels were well opened; urine was passed naturally. She was taking food much better and she slept well. From this day her convalescence was uninterrupted as regards the sulphonal poisoning and on Jan. 2nd she was sent to an asylum.

As regards the treatment of the case, with no definite data to go on, and a strong presumption of her having taken sulphonal, washing out the stomach seemed to be the right step, although, as it subsequently turned out, it was perhaps of little use as some 12 hours had already elapsed. Although the large enemata were retained they doubtless helped to eliminate a large amount of the poison by the kidney, and as for medicine, strychnine and digitalin seemed to be the only drugs indicated. The inhalation of the stomach contents was an unfortunate incident which, however, did not seem to affect the case very seriously, although septic pneumonia at one time threatened to complicate a most intractable case. Coma, absence of the reflexes mentioned above, including atony of the bladder and the bowel, were the most striking features in the case. The accidental inhalation was no doubt due to this condition also. The heart sounds were very feeble, more so than the pulse would suggest. Her condition at the first visit gave very little clue to the cause and it was only on the strong presumption of what had happened that sulphonal poisoning was diagnosed. Her recovery, however, was complete and happened more or less abruptly on the eighth day. No anorexia or constipation remained. Her mental condition also remained unaffected. Although when first seen her condition appeared to be critical, if not even hopeless, in the light of her subsequent recovery one is apt to regard the danger incurred with less fear. Other cases reported appear to have been followed by protracted evil effects and to have recovered very slowly. Examination of the urine showed a slight trace of albumin, no sugar, 4·5 per cent. of urea, and no blood. It was clear, light-coloured, and of specific gravity 1030; it had no smoky tint. The absence of a spectroscope precluded the test for hæmatoporphyrin. I should be glad to have suggestions as to any antidote for sulphonal if such exist.

Jersey.

A CASE OF ACUTE TRAUMATIC CHOLECYSTITIS.

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AND
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SENIOR SURGEON TO THE LONDON HOSPITAL.

A MAN, aged 59 years, was walking to business on Dec. 29th, 1903, when he slipped on some ice and fell. The history of how he fell is not quite clear, though he himself asserted that it was "all his length on his right side." He complained at the time of some pain but went to business and seemed no worse for the accident until Jan. 3rd, 1904, when he complained to his wife that his side hurt him, but he did not take much notice of it. On the 5th his bowels acted as usual in the morning and again at about 2 and 4 o'clock in the afternoon. (The sequel suggests that these actions were melænic.) Soon after the second action he was sick and in a little while was seized with a severe pain in the abdomen. He was shortly afterwards seen by Dr. Mowbray Henderson who administered morphia. The pain continued all that night sufficiently severely to keep him awake. He vomited on the morning of the 6th and again on the following morning but not subsequently. His bowels never acted after the loose motions on the 5th notwithstanding the administration of two enemata on the 6th and two on the 7th; the second enema on the latter date brought away a little fæcal matter. On the 8th the abdomen began to swell and Dr. Henderson asked me (F. J. S.) to see him at 1 P.M. as a case of intestinal obstruction. I found the patient lying in bed quite quiet and sensible; his face was very congested, almost blue, like the face of bad "bronchitis with emphysema." The pulse was

somewhat full, 117 per minute, with rather *plus* tension if anything and not the thready pulse of either asphyxia or peritonitis. The abdomen was full, round, and somewhat distended, offering no good opportunity for discovering much by palpation, but there was very marked tenderness just below the liver in the area corresponding to the gall-bladder. Percussion here also caused much pain but revealed no dulness—in fact, to sum up, one had a picture of intestinal obstruction without much guide to its seat or causation. I accordingly arranged to see him again in the evening with Mr. C. W. Mansell Moullin. I found the condition unchanged except that the pulse was now 120 and had lost its tension and fulness. His temperature had, by the way, since the 5th been hovering between 99° and 101° F.

Mr. Moullin decided to operate, though he could not frame a very definite diagnosis. We discussed the question of slight laceration of the liver or the gall-bladder, but rejected it from the absence of jaundice and from its general improbability. He opened the abdomen in the middle line and found—absolutely nothing, except one small omental hæmorrhage, so he then opened the cæcum by another small incision and fixed a catheter in the ileum. During the 36 hours that the patient survived a certain amount of black fæces—melæna—escaped from this tube, but he got weaker and died at about 8 A.M. on the 10th.

The necropsy was performed at 3.30 P.M. on the same day. The lungs and the kidneys were quite sound and the heart too, except for marked degeneration of the aorta (the valves were quite sound and the muscle was good). The intestines, too, were sound and there was no peritonitis observable by the naked eye, though as the intestines were fuller than usual I suspect there was a loss of tone in the peritoneal coat. The liver was a trifle fatty but otherwise healthy, and the only pathological change was with the gall-bladder. This externally was seen to be intensely inflamed, of a brown colour, and with patches of lymph scattered over it. It was moderately distended and the connective tissue round it was dark in colour and evidently not healthy. On cutting it open the distension was found to be due to what was very evidently blood, though considerably altered by decomposition. The lining membrane was more or less necrotic and soaked in blood and discoloured with the soaking. There were no gall-stones and no appearance whatever even faintly suggestive of a growth.

In my experience such a case is unique and I think it must be at any rate very rare. An interesting question arises as regards the precise cause of the paralytic obstruction of the bowel, whether it was due to a nerve influence through the bruising of the gall-bladder or whether it was owing to the toxæmia. Judging from the absence of signs of rapid decomposition at the necropsy I should incline to the former view, though it must be admitted that the examination was carried out very soon after death.

Another interesting point is how the gall-bladder came to be the only viscus that was bruised. There was no external bruising of the skin over it, so that considering the nature of the accident—a simple fall on a level road—it is not likely that the injury was due to direct violence, and yet the fact seems very difficult to explain upon any other hypothesis, as the gall-bladder is such a yielding viscus.

TWO CASES OF OSTEITIS DEFORMANS IN ONE FAMILY.

BY WALTER J. KILNER, B.A., M.B. CANTAB., M.R.C.P. LOND.

THE rarity of this disease is a sufficient excuse for giving a short account of two cases lately seen by me. They are brother and sister who have both passed middle age.

CASE 1.—The patient is a married woman, 69 years of age, who has had three sons, all of whom are alive and healthy, and two daughters, one being married with three children, and the other one having died during childhood. Until five years ago she enjoyed excellent health, her only illnesses being a severe miscarriage 30 years ago and an attack of sciatica seven or eight years ago. During her first pregnancy her left leg swelled and was dusky in colour, the condition being, as far as I can glean, due to varicose veins. At the present time the superficial veins of that leg are varicose. Previously to the last five years her figure was erect and she could not have measured less than 5 feet 7 inches—most likely an inch more. This is only approximate as she was considerably taller than a friend who is 5 feet 6½ inches. Now, however, her height is only 5 feet 1½ inches when she draws herself upright, which she is able to do only for a very short time. Her present illness began insidiously with what were thought to be "rheumatic pains." As nearly as she can remember the parts affected were attacked in the following order: the left leg, the right leg, the knees, and the soles of the feet; some short time afterwards the spine, first in the lumbar region, then between the shoulders, and last of all the right arm, the shoulders, the hips, and the clavicles. The pain was more or less continuous with nocturnal exacerbations, when the hips and legs were the seats of the greatest pain. Frequently she had very severe attacks lasting some hours or even a day or two. She had lost flesh, being now very thin instead of weighing 12 stones. When undressed she presents a remarkable figure (see Fig. 1). There is marked kyphosis, the

FIG. 1.

Female figure.

FIG. 2.

Male figure.

back of her head following the same curve as the spine while she is standing at rest. She is, however, able to raise her head, but it soon drops again. The shape of her head is peculiar and the cranial bones are enlarged, although she does not seem to have noticed this herself as the thickening has proceeded gradually. The lumbar curve of the spine is exaggerated but this is to a great extent masked by its being sunk between two ridges of flesh. There is no lateral curvature. Her clavicles are thick and enlarged irregularly. Her ribs seem to yield to pressure more than they ought if quite healthy; however, their shape remains unaltered. Her right arm is not so straight as her left, nor can she extend it fully at the elbow-joint. Her pelvis seems to be unaffected. The most marked deformity is in her thighs and her legs, the former outwards and forwards, the latter having similar curves, only the forward one being more marked, especially in the left leg. All the bones of the thighs and the legs are thickened irregularly but not all to the same extent. Taking the left tibia as an example, on March 3rd the whole bone was enlarged with indurated patches on the upper and lower thirds. These swellings did not include the whole circumference but were on the anterior and outer surfaces. They were diffuse with no

perceptible line of demarcation and were intensely tender to the touch. Their appearance was coincident with the exacerbation of pain. Seemingly there was no increase of temperature. After a variable time they gradually disappeared, sometimes leaving no appreciable permanent enlargement. As a rule the skin over the inflamed patches remains unaltered. I have not noticed any of the swellings raised more than a quarter of an inch, while they may be two or more inches in length. Before they become visible the surface of the bone becomes abnormally tender, which I attribute to the periosteum becoming affected before the bone itself. The muscles of the thighs are wasted and flabby and the same may be said of the gluteal muscles, the left side hanging considerably below the level of the right. When lying down with her knees touching there is a space of more than two inches between the thighs. It is only with great difficulty that she can balance herself when she stands with her feet together. When seen sideways she looks as if she must fall forwards. Her gait is a waddle.

For the last two or three years she has been very subject to attacks of bronchitis and is now rarely without a cough. Her heart is healthy but there are signs of atheromatous arteries. Her urine has a specific gravity of 1021 with a trace of albumin; there is no sugar, albuminose, or excess of phosphates; it is slightly acid. Under the microscope only oxalate of calcium crystals and a few epithelial cells were to be seen.

On March 3rd I ordered a mixture of five minims of liquor arsenicalis with five grains of calcium lactophosphate to be taken three times a day, also an embrocation of methyl salicylate in linimentum opii. On the 18th the pain had been less intense except once when she was kept awake the whole night by its severity. On May 2nd she reported herself improved as her acute attacks of pain were not so frequent or so severe. However, she had had swelling and pain in the hand which had left the joints of the thumb and the forefinger of the left hand in a condition similar to the after-effects of an attack of chronic arthritis. On the 16th her right leg had become more painful than the left for the last few days. There was an inflamed spot on the centre of the tibia. I ordered ten grains each of salicin and phenacetin to be taken when the pain was excessive. On June 24th it was stated that the powders had given relief but she had only had to take them twice. Her medicine was altered to ten minims of tinctura belladonnæ, five minims of liquor arsenicalis, and 15 grains of potassii bromidum three times a day.

When I was examining the patient she informed me that her brother was getting bandy legged and could walk only with difficulty. As he was unable to come to town I went and saw him on May 1st.

CASE 2.—The patient is aged 60 years. He is a broad-shouldered, cheerful-looking man, a typical, weather-beaten agricultural labourer, with a stoop and very curved legs, looking prematurely old for his years. Formerly he was 5 feet 9 inches in his stockings and quite straight, but at the present time he is six inches shorter. He says that "his deformity is stationary," but his niece wrote to her aunt (Case 1) in April that his legs were getting more bent and again in August that he was worse and that it was quite painful to see him walk. Formerly he was a sawyer and he attributes the bending of his legs to his occupation. His family, ten in number, are all strong and healthy. For 12 years he suffered greatly from pain in his abdomen and in 1893 entered St. Thomas's Hospital where he remained three months without benefit; then he went to St. Mary's Hospital where a few days after admission laparotomy was performed by Mr. H. S. Collier. The pylorus was found to be adherent to the lower surface of the liver. Since the operation he has been quite free from pain. About that time he began to suffer from what he calls "rheumatic pains" in his lower extremities. The pain was more severe in his hips and thighs and the left side was worse than the right. There is one spot just above the inner condyle of the left femur where the pain has been more severe and continuous than any other place. This part remains thickened and tender. The pain in the hips has been greater than in his legs. He gets very tired upon the least exertion and then his legs and ankles ache, especially at night time. Following in sequence his spine was next affected, first in the cervical and upper dorsal and then in the lumbar regions. Afterwards the shoulders and arms were attacked but the pain was never very acute here. At the present time his thighs and hips are the only places which are very painful. After his prolonged suffering from his abdominal trouble he makes light of his present ailment. Without his clothes his figure is peculiar (see Fig. 2), being emaciated but broadly built in the trunk, with proportionally long legs. His head protrudes forwards but it does not droop. The lumbar curvature of the spine is certainly increased. His pelvis is unaltered in shape and does not seem to be affected in any way. There is no lateral curvature of the spine. His thighs present an odd appearance, being wasted, flattened out laterally, and very narrow from front to back. The femurs are curved outwards and forwards, the former being in excess of the latter. The angle they make with the pelvis gives the idea that the weight of the trunk has pressed down the femurs in such a manner that their necks, instead of having a downward inclination to the shafts, have become almost horizontal. The broadest part of the trunk, instead of being at the intertrochanteric line, is quite one and a half inches lower down. The tibia and fibula are curved laterally and forwards, similar to the femurs but not to the same extent. All the bones feel irregular from local thickening, but the most manifest enlargement is just over the internal condyle of the left femur. The left limb is more distorted than the right. The bones of the head have not enlarged, as he can wear the same cap that he wore seven years ago. His clavicles are very prominent and enlarged more than his employment can properly account for. There is no change in his arms. His heart is enlarged, the apex being half an inch to the left of the mammary line and two and a half inches below. There are a prolonged first sound at the base and a loud rasping systolic murmur at the apex. Some of his arteries are atheromatous.

The first of these two cases is as typical a one as can be found, while the second lacks one important symptom of osteitis deformans, the enlargement of the cranial bones, but in other respects his, too, is quite typical. When taken in conjunction with the first there can be no doubt but that brother and sister are suffering from the same disease. These I believe to be the first cases on record where two persons in the same family have been attacked by this complaint. The disease in each of them began insidiously and almost simultaneously; although the sister is nine years the elder yet the brother is constitutionally older. The progress of the complaint is faster in the woman. There is not the slightest reason to suspect that either of them has suffered from syphilis. They have lived at a distance from each other for 40 years and the conditions of life in which they have been placed have been very different. The sister has been comfortably off in London and has suffered no real privations, and until lately has enjoyed excellent health. On the other hand, her brother has had his constitution undermined by ill-health and must have endured considerable hardships, being only a labourer in an agricultural village, either unable to work or at the most capable of undertaking very light jobs. We may conclude from this that neither climatic influences nor the mode of living has had any influence in the causation of this illness. As far as I can make out there is no history of injury, rheumatism, or nervous complaint to account for it. Certainly the woman suffered from sciatica but it was only for a short time and there was a considerable period of good health intervening before this disease showed itself. The first complaint either of the patients made of rheumatism was coincident with the commencement of their present condition and the pain seems to have been the very first symptom noticed and this was at first vague and afterwards became more localised.

There is one important point which has to be considered, Is osteitis deformans a general disease with the bone affection secondary, or are the bones affected primarily and alone? Case 1 alone would point to a general dyscrasia, as her health began to fail coincidently with the appearance of the rheumatic pains and she became liable to attacks of bronchitis and at the same time lost flesh rapidly. At first her walking powers were not diminished but they gradually lessened as the deformity of the legs increased. Strange, however, that she had no idea of the extent of her deformity until she accidentally saw herself in a looking glass when she was very horrified by her appearance. Her attacks of bronchitis seem to be entirely independent of any exacerbation of bone mischief. When her blood was examined under the microscope there was nothing abnormal to be found although it coagulated very quickly and it would not flow from a prick on the finger as easily as it would in

a healthy person. With regard to the second case the disease began when the sufferer was prostrated from a purely mechanical malady. When relief was given by an operation his health improved and he has remained well, although he has never become strong and continues to be unable to work on account of his physical infirmity and the pain produced by it. If the first of these cases stood alone there could hardly be any doubt about the disease being a constitutional one. In the second, however, any fresh systemic disturbance could not be well marked owing to its being implanted upon a man already debilitated by prolonged ill-health. His regaining health up to a certain point could be no reason why the disease with him should not be constitutional. Moreover, the fact that two persons in the same family were affected by the same complaint would point to a systemic rather than a local origin.

The treatment in these cases is eminently unsatisfactory, as little or nothing can be done except to build up the general health and to alleviate pain.

Ladbroke-grove, W.

A CASE OF TOTAL EXTIRPATION OF THE PROSTATE.

BY G. P. NEWBOLT, F.R.C.S. ENG.,
HONORARY SURGEON AND DEAN OF CLINICAL SCHOOL, ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

A MAN, aged 69½ years, was admitted to the Royal Southern Hospital on April 15th last, suffering from retention of urine. His urinary trouble first began five years previously when an attack of retention necessitated the use of an instrument and during the last four years he had led a catheter life. He had to get up at night in order to relieve himself and had had several bad attacks of retention. On April 13th he was unable to pass his soft catheter, and on the 15th he was admitted to hospital with a greatly distended bladder and a false passage from which he was bleeding freely. The bladder was aspirated above the pubes and four hours later a silver instrument was passed. After this the bladder was washed out twice daily, but the passage of the catheter caused him much pain and usually drew blood. On the 24th I saw him and passed a full sized silver prostatic catheter into his bladder; he had a large, soft, moveable prostate easily made out per rectum and bilaterally enlarged. The urine was acid, 1020, and contained blood and pus. On May 10th the patient's condition and the state of his urine having improved I determined to perform suprapubic prostatectomy. He was placed under chloroform and his bladder having been distended with ten ounces of boric lotion I opened the organ above the pubes and on introducing my left index finger at once felt a large prostatic tumour which resembled the uterus in shape with the cervix pointing upwards and backwards. Having scraped through the mucous membrane on the left side of the growth with my index finger nail I was able to enucleate speedily the gland on that side below and from behind the triangular ligament. After spending some five minutes in trying to clear it from the urethra I tore the latter across on the vesical side of the triangular ligament and proceeded to free the right portion. This was more difficult and it was necessary to use scissors in order to free the under and upper portions of the right lobe from the base of the bladder. The growth was then seized with forceps and delivered through the suprapubic wound. Whilst operating the prostate was pushed up from the rectum by the fingers of a colleague. There was some hæmorrhage which was controlled by boric lotion at a temperature of 110° F. A large rubber tube was put in the suprapubic wound and the rest of the incision was brought together with silkworm gut. There was some shock after the operation, from which the patient speedily rallied. The whole proceeding took 23 minutes from the first incision until the wound was sutured.

The after-history of the case is as follows: On the next morning the patient's pulse and temperature were normal. The tube was removed from above the pubes in 48 hours and the bladder was irrigated daily through a sott catheter in the urethra. On the 20th, ten days after operation, I passed a full-sized silver catheter into the bladder and he passed a little urine the right way when his bowels acted on the night before. On June 8th he went home, the wound had closed and he passed urine freely three or four times in the day and once at night. He had an attack of eczema due to the irritation of the urine about the wound, but this speedily cleared up. Two weeks after his return home he had an attack of bronchitis when the wound opened and remained so for a fortnight when it healed soundly. He is now in good health, passes urine freely, and is quite comfortable. The prostate, which was entire, weighed five and three quarter ounces. The ejaculatory ducts were torn across and show well in the specimen. A very thin partition was felt between the rectum and the bladder after removal, but the gap left rapidly contracted. Microscopically the growth was fibro-adenoma. The operation so ably advocated by Freyer seems to be a most valuable one in suitable cases.

Liverpool.

A CASE OF VERONAL POISONING.

BY G. FERNANDEZ M. CLARKE, L.R.C.P. LOND., M.R.C.S. ENG., L.S.A. LOND.

THE following case may be of interest to the readers of THE LANCET.

At midday on Dec. 13th, 1903, I was telephoned for to see a woman who, from the message I received, was evidently suffering from narcotic poisoning. On arriving at the house I found my patient in what appeared to be a sound sleep. The breathing was deep and slightly stertorous; the pulse was slow but regular; the pupils reacted to light; and the temperature was normal. With some difficulty she could be aroused but relapsed immediately into her former state of semi-coma. The history which I obtained from her friends was that the patient's age was 19 years; she had been married only a few months and seemed to be very happy; she had had a "touch of the sun" when in Jersey, after which she had been subject to several hysterical attacks varying in intensity, and to the best of their knowledge she had not taken any drugs. With this information I decided not to resort to any drastic measures but to content myself with treating the symptoms. As time went on the symptoms gradually subsided and by midnight I was able to learn from her that she had taken something to make her sleep but of what character that something was she absolutely refused to tell me. It was not until the next morning that I became acquainted with the drug in question when I received from her husband a box of veronal cachets, each containing eight grains, which had been found in her room. I saw her again the same day, when she had apparently quite recovered, having slept soundly throughout the previous night. On the 16th an erythematous rash appeared all over the body. There was a great amount of irritation of the skin, especially of the face which presented a very swollen appearance. There was little or no elevation of temperature and the symptoms passed off in the course of three days with the aid of sedative lotions. On the 21st I was again called to see the patient whom I found suffering from the following symptoms: tenderness in the right mastoid region with enlargement of the glands around; a thick ceruminous discharge from the right ear; a temperature of 101° F.; the tongue strawberry coloured and pointed; and a pulse of 125. She appeared to be in a very drowsy condition but assured me that she had not taken any more veronal. Refusing absolutely to take any form of liquid medicine I ordered her sulphate of quinine tabloids, each containing two grains to be taken every three hours. This I did more as a "placebo" than anything else. The next day, the 22nd, the patient had periodical attacks of delirium alternating with periods of semi coma in which she lay on her back with her eyes half open. There was also a peculiar scarlatiniform rash over the face and arms; the bowels were obstinately confined. On the 23rd the patient was about the same. Fearing the symptoms might be due to some obscure brain lesion (due to the sun attack in Jersey) I called in further advice but could not obtain any decided opinion. On the 24th the patient was still about the same, the temperature ranging from normal to 101°. Constipation was obstinate even after two enemata and half an ounce of castor oil in capsule had been given. Having great suspicion that the patient was still taking veronal by means of trickery I again impressed the husband to redouble his efforts to find out whether this

was so. This he did by a very ingenious method of telling the nurse that my orders were for the patient to be moved into an adjoining room on account of the light and ventilation and whilst telling this he had full view of his wife by standing in front of a looking-glass and pretending to brush his hair. It was not long before he noticed the patient trying to get her hand beneath the mattress and on going immediately to the bedside he discovered that his wife had another bottle of veronal tablets concealed there. On each of the subsequent visits the patient implored me to give her some more of the drug, even going so far as to threaten if I did not comply with her wish. With the aid of a strong purgative and regular nourishment recovery was very speedy; all the symptoms disappeared except those of the skin which still remained in a rough condition. On the 29th she was able to leave London for the country. Before leaving she gave me the following information.

A few days before I first saw her, Dec. 13th, she had consulted a medical man on account of sleeplessness. He prescribed veronal in the form of the cachets, telling her to take one cachet containing eight grains just before retiring to bed. Instead of keeping to his directions on the evening of Dec. 10th she took two cachets (16 grains). Being dissatisfied with the result obtained she took 24 grains on each consecutive night. Immediately after this I saw her for the first time and found her suffering from the symptoms described in the beginning of this article. It was not until the 21st that she commenced taking the drug again, and during the time I was attending her until her secret was found out she took 128 grains. These were taken in the form of chocolates made up to contain eight grains of the drug in each sweet. I have inquired of several druggists who deal in this narcotic as to its composition but have failed to find one who can answer my question. Since attending this case I have met with three instances in which this drug has been employed. Two were of suicidal mania, whilst the third was a case of threatening delirium tremens. In all three cases the results were most satisfactory in every respect.

Westbourne-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

FACIAL PALSY AS A FAMILY DISEASE.

BY JOSEPH A. ARKWRIGHT, M.A., M.D. CANTAB.

INSTANCES of facial palsy occurring in two members of the same family are rarely recorded but are not unheard of. Several writers, moreover, have traced a general liability to nervous diseases amongst the near relatives of patients suffering from this paralysis. In 1887 E. Neumann[1] recorded the family histories of 37 cases of facial palsy and found in 24 at least of these cases the occurrence of pronounced nervous disease in near relatives. The commonest form in which the nervous taint appeared was insanity which occurred in ten of the families, convulsions or epilepsy appeared in seven, and chorea was present in seven; other nervous diseases occurring were general paralysis, ataxy, and paralysis agitans, besides in some of the families migraine, hysteria, and hemiplegia in addition to these. The frequency of chorea is interesting as a disease linking acute rheumatism and a nervous predisposition.

In five of the families facial palsy itself had occurred in other members and in one a case of convulsive facial tic. In one of these five families three sisters were attacked at 25, 25, and 19 years of age respectively, and in another (observed by Charcot) five cases of facial palsy occurred, three sisters, a child of one of them, and a grandchild; in the other three families a brother or a sister was affected besides the patient. As a further proof that predisposition takes a large share in causing facial palsy and that cold is not alone a sufficient cause, Neumann cites the occurrence of two or more attacks in the same individual and mentions six recorded cases in which facial palsy occurred more than once in the same patient, one patient having four attacks on alternate sides of the face and in four of the other patients both sides of the face being affected at intervals. Gowers[2] mentions eight cases of second attack. Nevertheless a hereditary predisposition to this particular neuritis sufficiently strong to cause four cases in the same generation of one family must be rare and seems worthy of record.

The first four of the patients whose cases are about to be described were members of a family of nailmakers in Worcestershire. The first one seen by me was a girl, 17 years of age, who noticed in the evening of August 17th, 1895, that her face was drawn to one side and that she could not close her right eye. I saw her on the same evening and found almost complete right facial palsy. She had pain in the right cheek and in the upper and lower jaws on the same side and in the right ear and there was some tenderness over the articulation of the lower jaw. The paralysis was very much less in two months and eventually disappeared altogether.

I was told by the above-mentioned patient that her elder sister when 16 years old had an attack of paralysis of the right side of the face from which she recovered in about six months.

A third sister came to me on Jan. 25th, 1899; she was 17 years old and she stated that on the previous day while she was at work making nails she felt a "snap" in the right side of her face and since then the right eye had watered. When I saw her the right side of the face was paralysed. She complained of not being able to distinguish the flavour of her food and of having a bad taste in her mouth. There was slight deafness of the right ear but she had never suffered from otorrhœa.

The fourth patient of this family was a man, aged 26 years, the brother of the three preceding patients and employed as driver of a steam-crane. On Feb. 10th, 1902, he noticed that his face was "drawn to the left." I saw him on Feb. 13th and found that he had right facial palsy which was not quite complete.

All these four patients lived together in the same house, and in the same road a few doors away there lived a first cousin of theirs whose wife and wife's mother were both under my care with facial palsy at different times. These two latter patients then though neighbours, were not blood relatives of the other four. The elder of the two, a married woman, 56 years old, was seen by me on August 22nd, 1902; she stated that on August 18th she had pains in her head and temples and on the 20th her face was noticed to have an unusual appearance. When I saw her there was right facial palsy; taste and hearing were not affected.

The other patient was a married daughter of the last-mentioned and was under my care some years ago on account of facial palsy from which she did not recover.

These cases confirm the conclusion of Neumann that although a cold draught may act as the exciting cause of facial palsy, still a very strong predisposition may be inborn. It is remarkable that two neighbouring families should have taken part in this series of cases but the distance of the cases in point of time makes it improbable that there was an infective agent which connected them.

Dover.

[1] E. Neumann: Archive de Neurologie, vol. xiv.

AN EARLY SYMPTOM OF ACHOLIA.

BY HAROLD J. VAN PRAAGH, M.D. LOND.

A VERY early symptom of the interesting disease named by Dr. W. B. Cheadle acholia was observed in a case which I have had under observation for over 12 months. The patient, a female, two and a half years old, when I first saw her was very ill with symptoms of acholia—namely, loss of appetite, wasting, vomiting, and the typical porridge-like grey stool, composed chiefly of fatty matter. There was no jaundice or sign of other disease, such as tuberculosis. In spite of careful dieting and the use of mercury and arsenic she became steadily worse and seemed about to die from asthenia. However, she was sent away from her home in London to Margate, where she almost immediately made a rapid recovery, putting on flesh and eating her food quite well; at the same time the bile returned to the stools which resumed a normal appearance.

[2] Sir William Gowers: Diseases of the Nervous System.

Several attempts were made in the ensuing year to keep her well at home but they invariably failed. It was about this time pointed out to me by the child's father that some days before the stools commenced to lose colour an earlier symptom manifested itself—namely, coldness and dryness of the extremities. The child was carefully watched and on return to town this appeared to be the first symptom, being rapidly followed by loss of appetite.

I therefore ordered that she should sleep between blankets with a hot-water bottle and that her arms and legs should be well covered up during the day, with the pleasing result that the threatened attack passed off and the child is able for the first time since her illness to live in London. The practical importance of observing this early symptom is obvious from the point of view of treatment. Whether it throws any light on the pathology of this obscure disease it is difficult to say. However, it does suggest that changes in atmospheric conditions may act as exciting causes of acholia in children predisposed to temporary loss of hepatic function. What these atmospheric changes are and how they act are problems that await solution.

It is with the object of calling attention to the fact that treatment of this early symptom may ward off the full development of acholia that I venture to bring the case before the readers of THE LANCET.

Welbeck-street, W.

TOTAL EXTIRPATION OF THE PROSTATE FOR RADICAL CURE OF ENLARGEMENT OF THAT ORGAN.

BY J. WOOD COOKE, M.R.C.S. ENG., L.S.A.,
SENIOR SURGEON TO THE NORTH DEVON INFIRMARY.

A MAN, aged 71 years, was admitted into the North Devon Infirmary on Oct. 23rd, 1903, suffering from "retention of urine and false passage." For four years he had passed a catheter for himself many times daily, but of late he had done this with more and more difficulty and frequently with some hæmorrhage. On Oct. 23rd he was unable to micturate and sent for a medical man who passed a silver instrument, drawing off urine which was very blood-stained. The patient was then sent to the above institution. He had been losing flesh for some time and was in great pain. His bladder was much distended and a No. 9 silver catheter was passed and a large quantity of blood-stained urine was drawn off. No soft instrument would pass.

On Oct. 24th I performed suprapubic cystotomy and left a long rubber tube (No. 12) in the bladder which was drained into a vessel containing phenol. The patient was much relieved and the urine became free from blood after a few days, but would not pass through a rubber catheter introduced into the bladder, although the bladder could be washed out through it. On Nov. 7th I decided to perform prostatectomy. I therefore opened up the suprapubic wound, snipped the mucous membrane with scissors over the most prominent part near the urethra, and enucleated the middle and right lobes of the prostate, assisted by pressure upwards in the rectum. I removed this portion with volsellum forceps after some trouble owing to its size and then enucleated the left lobe which was smaller, leaving the prostatic urethra intact. What was removed weighed altogether four and a half ounces; the bleeding was copious. I irrigated freely with hot saline solution and then replaced the rubber drainage tube as before. The patient was under A.C.E. mixture for about one hour, the enucleation taking about 20 minutes. On Nov. 11th he passed about two ounces of blood-stained urine naturally. On the 13th he twice passed a little urine and then for several days did not pass any. The drainage was continued and a No. 8 soft catheter was passed easily but no urine came through it. On the 17th a herpetic eruption appeared on the right side of the scrotum, the penis, the perineum, and the right gluteal region. The urine was still blood-stained and foul; the bladder was washed out daily. On the 23rd the drainage was stopped as the man passed urine quite naturally and has continued to do so up to the present date (Dec. 1st). The urine is acid in reaction and normal in character. It is passed with freedom and ease, the patient being up and about and practically quite well.

Barnstaple.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

SUNDERLAND INFIRMARY.

AN UNUSUAL SEQUENCE OF HERNIAL TROUBLES IN AN INFANT; OPERATIONS; RECOVERY.

(Under the care of Dr. STANLEY RAW.)

THE patient is at present aged ten months and was five weeks old when his mother took him to the infirmary complaining that she "had no peace with him" as he was continually crying and had great difficulty in passing urine. She had also noticed that there was sometimes a lump in the right groin and that when this lump was present he was more fretful than usual. On examining the child Dr. Raw found that he had a very long and tight prepuce and that the right external abdominal ring was abnormally large and easily admitted the tip of the little finger, though there was no hernial protrusion, despite the fact that the child cried incessantly during the manipulation. The mother having consented to have him circumcised the operation was performed on the next day and the baby was treated as an out-patient.

At the end of the week the wound was quite healed and the difficulty of micturition disappeared but the mother stated that the child was as fretful as ever and that the lump had been frequently present. Hernia was now recognised and a light web truss was applied. On Oct. 16th the mother again took him to the infirmary and said that his bowels had not acted for more than three days, during which time he had vomited all she gave him, that the lump had been there all the time, and that he had cried almost incessantly. On making an examination a strangulated inguinal hernia was found and the mother, in answer to questions, said that she had not had time to look after his truss—her husband was a day labourer and they had a family of four—and as he was passing urine without any difficulty she thought that he was all right and only fretful. She further said that when she had time she gave the infant the breast, but on other occasions he "just had what was going" and that since the first operation his diet had consisted of breast-milk, bread, rice, meat, potatoes, and such like, each given indiscriminately and to suit the family convenience or to quell his crying.

Dr. Raw operated upon the case one hour after admission and on opening the sac fully two ounces of dark blood stained fluid escaped and a knuckle of intestine presented in the wound. The hernia was of the congenital variety. When the strangulation was relieved the intestine was deeply congested—almost black on its posterior aspect—whilst the marks of the neck of the sac were deeply indented on the gut. It was, however, returned within the abdomen and the sac was then freed. This was a matter of some difficulty owing to the intimate way in which structures of the cord were spread out and attached to it, and it was not possible entirely to free the cord at the neck of the sac, but it was eventually sufficiently cleared, after which it was divided transversely and the lower portion was sewn up in order to complete the tunica vaginalis. A pair of sinus forceps was then passed from without inwards through the abdominal wall above the internal ring down the inguinal canal and the upper part of the sac was drawn through the wall of the abdomen, where it was fixed, and a radical cure was completed by sewing the conjoined tendon to Poupart's ligament. The skin wound was united by interrupted sutures and an ordinary dressing was applied. On recovery from the anæsthetic the child was very restless and cried continually and was given seven grains each of chloral hydrate and bromide of potassium per rectum which acted admirably and he slept well all night. The bowels moved well the next day and he was given milk and barley water and eventually milk and made an uninterrupted recovery, the

wound being soundly healed and the stitches removed on the seventh day. The patient left the hospital three days later.

On Dec. 11th the child was again taken to the infirmary with a history of the same symptoms but this time with a lump on the left side which had first been noticed on the previous day. Since his discharge from hospital his diet had been modified in accordance with the instructions given to his mother and she said that he had been much better and had not been nearly so fretful. The bowels had been quite regular until the lump appeared on the left side, since when he had had absolute constipation and he had vomited twice. On examining the abdomen it was found that the scar on the right side was perfectly sound and that there was no attempt at recurrence but the child now had a strangulated inguinal hernia on the left side. Dr Raw again operated upon him and found a state of affairs similar to the previous one, with the exception that the condition was not so bad as the strangulation had only existed for one day. The operation was completed as on the other side but on this occasion the parts were separated with comparative ease and no great difficulties were met with. The after treatment was also similar and uneventful and the child left the infirmary on Dec. 22nd with the wound soundly healed.

The above sequence of catastrophes in one of such tender age must be very rare.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Researches on the Morphology of an Organism associated with Carcinoma Mammæ and the Etiological Significance of the Association.—On the Preparation of Nutrose Agar.—A New Pathogenic Anaerobe found in Putrid Beef Infusion.—A Method of examining Water for the Presence of Bacillus Enteritidis Sporogenes.—Bacteriology of a Case of Emphysematous Gangrene.

A MEETING of this society was held on Jan. 19th, Dr. E KLEIN, the Vice-President, being in the chair.

Mr. K. W. MONSARRAT (Liverpool) read a paper on the Etiology of Carcinoma and Researches on the Morphology of an Organism associated with Carcinoma Mammæ and the Etiological Significance of the Association. He said that in 1899 he had read a paper in which he described the morphological characters of an organism isolated from carcinomata. During the last four years he had continued these researches. From a considerable proportion, 58 per cent., of a series of specimens of carcinoma mammæ an organism had been isolated possessing certain well-marked characteristics. By the study of this organism in culture and in animals experimentally inoculated it was shown that it possessed a double life cycle, the one a vegetative cycle in which reproduction took place by budding on culture media, the other a sporulating cycle and specially associated with the existence of the organism in the animal body. When inoculated into animals in the form of what had been called Type A it was capable of penetrating and inhabiting epithelial and endothelial cells and of initiating in these a process of proliferation. This process of proliferation was active and irregular and the new tissue thus formed infiltrated surrounding structures. In some cases it was associated with new tissue formation in neighbouring glands with a structure which bore a distinct resemblance to that of primary nodules. In one at least of the cases recorded nodules in viscera appeared not to arise from any local cell element and bore a close resemblance to the primary nodules. The organism could be demonstrated as an intracellular parasite in the endothelial and epithelial cells of the experimentally produced nodules. The same staining method showed the presence in carcinomata mammæ of bodies which appeared identical in character with the parasites in the experimental nodules and they were here found, as in the latter, both within and without the parenchyma cells.—Dr. W. S. LAZARUS-BARLOW said that he thought that the appearances described by Mr. Monsarrat were capable of another explanation and suggested that the organism found was due to contamination. The experiments showed proliferation of tissue produced as the result of injection of an organism of a low order of virulence. In the lymphatics themselves they produced a condition very like an endothelioma. He thought that the nodules produced were in reality granulomata.—Mr. S. G. SHATTOCK said that he did not think that the organisms found were the result of contamination but probably belonged to the order blastomyces. He suggested that the organism might be the cause of chronic mastitis rather than the cause of carcinoma. He asked Mr. Monsarrat if he had examined the mamma in cases of chronic mastitis. He did not consider that the changes experimentally produced in the breast of a dog were typical of new growth but might be due to mastitis. The condition produced in the liver of the dog in which there was proliferation of the cells was a condition which required careful observation and he hoped that Mr. Monsarrat would be willing to submit his specimen to a committee of the society for further investigation.—Mr. MONSARRAT replied.

Dr. J. W. H. EYRE read a short note on the Preparation of Nutrose Agar.

Dr. KLEIN described the Bacillus Carnis, a new pathogenic anaerobe found in putrid beef infusion. It grew only under anaerobic conditions, a short, slender bacillus motile, and possessed of numerous flagella. It readily formed terminal spores oval to rod shaped and stained by Gram's method. It grew readily on serum, on agar, in gelatine, and in milk. Its colonies were translucent discs, at first rounded, later with raised margins with numerous knob-like projections. In gelatine in the depth it grew with numerous branched filaments; in stab gelatine culture the growth looked like mossy bundles. Neither blood serum nor gelatine was liquefied by the growth. Milk retained its fluid character. In glucosed media more or less gas was produced by the growth. Small doses of the bacilli or their spores were highly virulent to guinea pigs and mice, causing after subcutaneous injection extensive gelatinous infiltration and death in from 20 to 36 hours. The infiltration contained abundance of a clear sero-sanguineous fluid crowded with the bacilli. In the blood and the spleen the bacilli were also present but less numerously. The peritoneum, the stomach, and the intestines were inflamed and often showed hæmorrhages. Occasionally the spleen and the liver contained infarcts. No gas was present either in the subcutaneous infiltration or in the internal organs, nor did the subcutaneous exudation or the culture possess any odour.

Dr. R. T. HEWLETT read a note on a Method of examining Water for the Presence of the Bacillus Enteritidis Sporogenes. The method ordinarily adopted was to concentrate the micro-organisms present in the water by filtration through a Chamberland filter, the micro-organisms deposited on the filter being then suspended in a few cubic centimetres of sterile broth and one cubic centimetre of the suspension was added to each of several milk tubes which were heated to 80° C and incubated anaerobically. Dr. Hewlett pointed out that there were several possible fallacies in this method and considered that it should be given up if possible. For the detection of the bacillus coli the use of concentrated media could be substituted but the concentration of milk was impracticable. It was found, however, that milk might be diluted with at least twice its volume of water and still show after heating and incubation the changes characteristic of the bacillus enteritidis sporogenes. The method suggested was the use of large boiling tubes, each containing 40 cubic centimetres of milk to which could be added 60 cubic centimetres of the water. After heating the tubes were incubated anaerobically at 37° C. in a Bulloch's apparatus or in a stoppered museum jar without a neck containing alkaline pyrogallol. By the use of a dozen such tubes 700 cubic centimetres of water could be examined in this way without the need for filtration.

Mr. L. S. DUDGEON and Mr. P. W. G. SARGENT contributed a paper on the Bacteriology of a case of Emphysematous Gangrene. The patient was a male, aged 24 years, under the care of Mr. G. H. Makins. He was admitted to hospital with a compound comminuted fracture of both legs sustained through a fall from a moving train. The right leg was amputated for simple traumatic gangrene as soon as the shock had passed off. The wound in the left leg had been cleansed and sutured. On the fifth day gangrene appeared in the left leg; the temperature was 103·2° F. and the pulse was 132. The skin was tense and pale and showed mottling due to dilated cutaneous venules. Emphysema was present round the wound and extended just above the knee. On removing the stitches there was an escape of brownish fluid and gas bubbles having a peculiar mousy smell. Amputation was performed through the middle of the thigh. The muscles were œdematous and the subcutaneous fat

showed greenish necrotic areas in places. Recovery was slow but otherwise uneventful. The urine contained neither sugar nor albumin throughout. Aerobic and anaerobic cultures were made from the emphysematous tissues. The staphylococcus albus was obtained in pure culture from the tissues immediately beyond that area. A bacillus which did not stain by Gram's method was obtained in both aerobic and anaerobic broth tubes in pure culture. The organism was a facultative anaerobe. In a large variety of media it behaved like the standard type of the bacillus coli. It failed to grow in its own filtrate, whilst most other examples of the bacillus coli group grew to some extent. It was pathogenic in guinea-pigs but did not produce emphysema even when inoculated together with the staphylococcus albus. It gave a feeble agglutination reaction with the patient's own serum. The staphylococcus isolated from this case showed no reaction with the same serum. Numerous examinations of the patient's blood were made, the chief point of interest being that there was a gradual transition from the small lymphocyte up to, and including, the myelocyte. Mr. Dudgeon and Mr. Sargent considered that the organism was a member of the bacillus coli family.

OBSTETRICAL SOCIETY OF LONDON.

Fibro-myoma of the Uterus.—Pyometra in a Subseptate Uterus.—Abscess in the Wall of the Uterus.—Exhibition of Specimens.

A MEETING of this society was held on Jan. 6th, Dr. EDWARD MALINS, the President, being in the chair.

Dr. H. R SPENCER read a paper on Fibro-myoma of the Intra-abdominal Portion of the Round Ligament of the Uterus. He recorded a case of fibro-myoma of the intra-abdominal portion of the round ligament weighing six pounds, removed by abdominal myomectomy from a virgin, 24 years of age, who remained well after five years. He also gave a short account of the 13 cases previously published. A consideration of the facts furnished by these 14 cases showed that fibroids in this situation occurred usually in women over 40 years, Dr. Spencer's case being the youngest (24 years) and Winckel's the oldest (76 years). The tumours were more frequent on the right side than on the left (nine to five); in one case they were found in both ligaments and in another two tumours existed on one ligament. They might occur in virgins; they did not tend to prevent pregnancy or to cause abortion. They did not influence menstruation: menorrhagia and dysmenorrhœa were present, being due to uterine fibroids which were associated in half the cases. The tumours were subject to lymphangiectasis and to myxomatous and calcareous degeneration and might cause trouble after the menopause. They varied in size (from that of a nut to 12 kilogrammes) and might be pedunculated or sessile, intraperitoneal or subperitoneal. The pedicle might be the ligament itself, which was hypertrophied, or there might be a separate pedicle attaching the tumour to the ligament. Torsion of the pedicle might occur. Special symptoms due to the tumour were often not marked; abdominal pain and stiffness, pain on walking, sacral pains, intestinal pains, and pressure on the bladder had been met with. In Dr. Spencer's case the superficial abdominal reflex was much increased on the side of the tumour. Ascites was absent. The tumours, which varied in consistence, closely simulated ovarian, uterine, and broad ligament growths. The tumours should be removed as soon as they caused symptoms or attained a considerable size. The pedicle should be carefully tied and, when possible, the ends of the ligament should be united. If a sac were left after enucleation it should be closed by suture or drained. Two patients had died (of 11 operated on)—i.e., 18·18 per cent.—but the fatal cases had occurred 20 years ago.—Mr. ALBAN H. G. DORAN was not surprised to find that more than half of the cases were associated with fibroids in the uterus. In one instance where he had operated he enucleated a fibro-myomatous growth of the size of a pigeon's egg from the uterine end of one round ligament and removed the fibroid uterus. It was significant that, as in the case of fibroid of the broad ligament, the same kind of tumour was found both in the intra- and extra peritoneal portion of the round ligament with relative frequency in young subjects, one patient being only four years old. Fibroid disease was also relatively common in the band representing arrested development of a uterine cornu and in that case the corresponding round ligament was usually very large. Josephson and Falk believed that the rapid development of that ligament in fœtal life was the cause of malformation of the uterus. Hence fibroid of the round ligament might, in one sense, represent a teratological condition. Quite recently Mr. Doran had removed a uterus bicornis for a large fibroid developed in the septum—another half-teratological condition, not very rare. He dwelt on the surgical aspect of operations involving division of the round ligament. He thought that Dr. Spencer was right in recommending the union of the divided ends by suture when practicable. The outer stump should not be allowed to recede towards the internal abdominal ring.—Dr. W. SAMPSON HANDLEY said that he would like to hear Dr. Spencer's views on the pathology of these fibro-myomata of the round ligament. Mr. Doran had brought forward reasons for thinking that they might originate from persistent embryonic structures. He would suggest that possibly fibro-myoma of the broad and of the round ligaments was genetically identical and that both varieties of growth might originate from accessory Fallopian tubes. Koumann had shown how frequently these accessory tubes were present and it was now known that certain cysts of the broad ligament arose from them. He had himself proved the presence of plicæ in such cysts. Since fibro-myoma was known occasionally to arise from the muscle of the normal Fallopian tube it seemed probable that accessory tubes might give rise not only to cysts of the broad ligament but to fibro-myoma of the broad and round ligaments.—Dr. SPENCER, in reply, said that he had been particularly interested in the remarks of Mr. Doran who had done so much valuable work on fibroids of the uterus and broad ligaments. He thought that there was much to be said for the teratological origin of these tumours, especially as they sometimes contained adenomatous tissue as in Cullen and Bluhm's cases. The enlargement of the round ligament in unicornuate uteri, mentioned by Mr. Doran, he had not previously been aware of. With regard to Dr. Handley's suggestion, it had not been proved to his (Dr. Spencer's) satisfaction that accessory Fallopian tubes existed, and when it had been proved he could see no reason why they should be brought in to explain a simple fibro-myoma occurring in a fibro-myomatous structure like the round ligament.

Dr. W. F. VICTOR BONNEY read a short communication on a case of Pyometra in one-half of a subseptate uterus. Apart from the rarity of such a condition the case presented a remarkable resemblance to a pregnancy occurring in a uterus the seat of extensive perimetric adhesions. The patient had a history of recurring attacks of acute peritonitis extending over a period of many months. She had had a child seven months previously to the onset of the symptoms. There had been amenorrhœa for the two months immediately preceding the operation and the uterus was enlarged to a corresponding size and appeared to be imbedded in an inflammatory mass. There was copious secretion in the breasts. Opportunity for impregnation had occurred at about the requisite period and had been shortly succeeded by a recrudescence of the inflammatory symptoms. On opening the abdomen the uterus was found to be the seat of universal adhesions and to be enlarged in accordance with the pre-operative diagnosis. The upper part of the uterus was cleared of adhesions with difficulty and the tubes were inspected and found to be unthickened and normal, though adherent. Dr. Bonney, believing that the patient was pregnant in a universally adherent uterus, determined to incise the fundus and to remove the gestation sac. Her condition, which was grave, was held to be the result of the increasing enlargement of the pregnant uterus dragging upon the extensive adhesions to the intestines. On incising the uterus a quantity of pus escaped from a cavity which, on further exploration, was held to be the left half of a subseptate uterus, the median septum having become adherent to the left uterine wall about the level of the internal os. The uterine sac was stitched to the abdominal wound and drained and the patient made a good recovery.

Dr. ARNOLD W. W. LEA related a case of Abscess in the Wall of the Uterus, in a patient who suffered from gonorrœa at the time of delivery, which developed during the puerperium and ruptured into the peritoneal cavity. The patient had suffered during the second week after delivery from severe recurrent pain in the hypogastrium but was able to walk about. Six weeks after delivery she was suddenly seized with intense abdominal pain, followed by symptoms of

acute peritonitis. Abdominal section was performed and an abscess in the posterior wall of the fundus uteri was found to have ruptured into the peritoneal cavity. The abdomen was irrigated and abdomino-vaginal drainage was established by a large drainage-tube. The abscess cavity and the floor of the pelvis were packed with iodoform gauze. The patient, though very ill for a few days, made a perfect recovery. Uterine abscess was rare. In many cases perforation took place in the peritoneal cavity unless operation was performed. Diagnosis was often difficult. Pain associated with great sensitiveness and enlargement of the uterus should lead to a suspicion of its presence, though it was often difficult to distinguish it from an infected myoma of the uterine wall. If perforation occurred immediate abdominal section afforded the best chance of success. If the abscess were single and one or both appendages were normal conservative measures should be carried out. If the uterus were infiltrated with pus hysterectomy should be performed. If it were decided to leave the uterus it was essential to provide efficient drainage. This might be best carried out through the vagina.—Dr. AMAND J. M. ROUTH alluded to the great rarity of pregnancy during uterine fixation and related a case of pregnancy occurring in a uterus entirely fixed by parametric exudation, resembling, therefore, in its essential aspects the case of Dr. Bonney as first diagnosed by him. In this case hæmorrhage occurred at about the twelfth week and the temperature rose to 102° F. It was impossible to draw down the cervix but after rapid dilatation he was nevertheless able to empty the uterus by means of his finger and a ring-forceps. He thought, therefore, that if Dr. Bonney's diagnosis had been correct he would have been able to deal with it per vaginam, though, as the case turned out, he had clearly adopted the best method. It was, however, not certain that it was a case of abscess in the half of a septate uterus and might well be an abscess in the wall of the uterus, similar to Dr. Lea's case.

Dr. R. H. BELL showed a specimen of a Cyst in connexion with a right Fallopian Tube, and Dr. HANDLEY added some interesting comments.

Mr. J. D. MALCOLM showed a Sloughing Fibroid which was removed two months after child-birth.—In the discussion which followed Dr. SPENCER, Dr. ROUTH, and Mr. DORAN took part.

Mr. J. H. TARGETT brought forward a specimen showing Tuberculosis of the Internal Genital Organs with Uterine Fibroids.—The case was discussed by Dr. LEA and Dr. SPENCER.

Mr. W. A. MERREDITH showed a specimen of a Cervical Fibroid and Mr. DORAN and Dr. SPENCER discussed the case.

EPIDEMIOLOGICAL SOCIETY.

Sleeping Sickness.

A MEETING of this society was held on Jan. 15th, Dr. B. A. WHITELEGGE, the President, being in the chair.

The adjourned discussion on Dr. L. Sambon's paper, read at the previous meeting, on the Elucidation of Sleeping Sickness, was resumed, Dr. Sambon reopening the subject at the invitation of the President by some further remarks, especially as to the localisation of the disease.

Dr. SAMBON said: At our last meeting I had the honour of reading to you a critical review of the work which has led to the elucidation of sleeping sickness. I mentioned the old writers who gave us the first accounts of this fearful disease, I mentioned Guérin's interesting thesis which proved that the disease could remain latent for two, three, or five years and Corre's excellent papers which added much new information on the symptomatology and epidemiology of the disease. I described Dr. F. W. Mott's admirable researches in the minute anatomy of the disease and I discussed some of the old theories concerning the etiology of sleeping sickness. In 1901 sleeping sickness broke out in the Uganda Protectorate, round the northern shores of the Victoria Nyanza; this sudden appearance of the deadly scourge in East Africa gave rise to considerable apprehension and a commission was despatched to Uganda by the Royal Society in June, 1902, for the purpose of investigating the cause of the epidemic. The commission consisted of Dr. G. C. Low, Dr. C. Christy, and Dr. A. Castellani. Dr. Low proved that filaria perstans had no causal connexion with sleeping sickness. Dr. Christy showed that the disease was strictly confined to a narrow strip along the north-east coast line of the Victoria Nyanza and its islands. Dr. Castellani discovered the true cause of the disease: a trypanosoma in the cerebro-spinal fluid of about 70 per cent. of cases examined. For some years trypanosomes had been the object of very active researches and a large amount of knowledge had been accumulated. Dr. Castellani's discovery brought all this knowledge to bear on sleeping sickness and thus in less than a twelvemonth the deadliest scourge of Africa was brought within the pale of prevention. In the annals of medicine it is not often that we come across a piece of work so well and so rapidly carried out. Unfortunately, Dr. Low and Dr. Castellani were obliged to return to this country and the Royal Society sent out a second commission consisting of Colonel Bruce and Dr. Nabarro. These gentlemen at once confirmed and extended the work of their predecessors and carried out a large number of experiments to ascertain whether the disease is communicable to the lower animals and whether the trypanosoma of sleeping sickness is transmitted from the sick to the healthy by a tsetse fly, as is known to be the case in nagana. Unfortunately, the experiments with tsetse flies and monkeys are not convincing and cannot be said to prove anything. The monkeys experimented upon were kept in the open without any protection from blood-sucking diptera or from any other source of infection, and this in a district in which sleeping sickness was prevalent. The flies were not reared for one or more generations in the laboratory, as should have been done in conformity with the numerous and masterly experiments which have been carried out in connexion with the intermittent fevers of man and the hæmoglobinuric fevers of cattle. The glossinæ were collected at random and hundreds of flies were indiscriminately used in each experiment. Two sets of experiments were carried out. In the first the flies were previously fed on patients suffering from sleeping sickness and after eight, 24, or 48 hours they were made to bite the monkeys. In the second the flies were made to bite only the monkeys soon after being caught. Both sets of experiments gave positive results, with a very striking difference however, because while trypanosomes appeared in the blood eight weeks after the first bite in those animals which were bitten by flies previously fed on cases of sleeping sickness they appeared after only two weeks in those which were bitten by flies not artificially infected. From those experiments the commissioners concluded that they have proved, first, that "glossina palpalis is capable of conveying trypanosomes from sleeping sickness cases to healthy monkeys up to at least 48 hours after feeding"; and secondly, that the flies collected in the vicinity of Entebbe were actually carrying the trypanosomes of sleeping sickness. I dispute the conclusions arrived at by Colonel Bruce and his collaborators. Their experiments did not prove that the flies conveyed the trypanosomes of sleeping sickness from the patients on which they were fed to the healthy monkeys. On the contrary, the presumed artificial infection only served to deprive the flies of the majority of the trypanosomes they were harbouring. From the positive results obtained in the second set of experiments we know that these flies were already infected with trypanosomes when caught. When the flies were allowed to bite the monkeys immediately after being caught the infection in the latter manifested itself in about a fortnight, but when the flies were first fed on sleeping sickness cases the monkeys experimented upon did not show trypanosomes in their blood until after eight weeks. This singular fact proves very clearly that the flies instead of drawing trypanosomes from the blood of the sleeping sickness patients, who probably had very few, if any, in their peripheral circulation, actually discharged in the blood of the latter all or most of the parasites which they were carrying. Then, again, I do not consider that the commissioners proved that the flies caught in the vicinity of Entebbe were carrying the trypanosomes of sleeping sickness. They only proved that the flies were carrying trypanosomes and that the monkeys were susceptible to these trypanosomes, but who can tell whether these trypanosomes were those of sleeping sickness? The commissioners state themselves that they examined some oxen in Entebbe and found in the blood of these animals a trypanosome which was neither trypanosoma Brucei nor trypanosoma Gambiense. And, surely, many other species of trypanosomes are to be found in the blood of the mammals, birds, batrachians, and fish of Uganda. Lastly, I do not consider they proved that the fly is merely a passive carrier of the infection. This mode of transmission may be possible under certain conditions but it is

certainly not the usual one. It does not explain why nagana is carried exclusively by a glossina and not by any of the many other blood-sucking insects which attack horses and cattle outside the 12 stations, or "fly belts" as they are called. It does not explain why sleeping sickness is likewise strictly confined to the tsetse tracts and is not propagated by the numerous blood-sucking insects and acarida which swarm in the huts of the natives or cover their bodies. Sir Patrick Manson very justly said that to base expensive measures on what may be only a speculation and not a fact is somewhat dangerous ground for men responsible for the conduct of public affairs and he urged the application of culture experiments to decide whether trypanosoma Gambiense is the true and only cause of sleeping sickness. For the same reason I would urge the œcological study of tsetse flies. If sleeping sickness is a trypanosoma disease, if a tsetse is the means of its dissemination, the study of the bionomics of the glossinæ is the most important step with regard to prophylaxis. Mr. Austen in his valuable monograph has given us a very full account of the information so far collected with regard to the life habits of tsetse flies. I also have studied the bionomics of the glossinæ but my conclusions are somewhat different from those of Mr. Austen. Tsetse flies are confined to Africa. As a genus they have a wide range throughout the greater part of the continent but the limits of the various species are very imperfectly known. Far more definite and important is the knowledge of their local distribution. This, however, must be considered collectively because hitherto writers have not distinguished between species. No doubt the habits of different species will be found to differ and perhaps these differences will explain some of the discrepancies between various observers. But whatever the species and whatever the part of Africa in which they have been observed authors are unanimous as to the location of the tsetse stations. The glossinæ are never found on mountains, they are seldom seen above 3000 feet; they are absent from extensive plains or other open places; they are rarely found in cultivated patches. Their habitat is always in the neighbourhood of water, along the banks of rivers, round the coasts of lakes, on low riverine islands, in swamps and meres, especially at the foot of mountains. They are most numerous along the water's edge, they become scarcer and scarcer as one advances inland, and they disappear entirely within a few miles of the water. The places they occupy are sharply defined and permanently established. These places or stations are called "fly belts" and the natives know their limits precisely. The fly belts vary greatly in disposition and extent. Not infrequently they occur on one side of a stream but not on the other. Along the courses of rivers or in the low country bordering a coast line so called "fly belts" may extend for hundreds of miles, varying greatly in width according to the nature of the country. In such cases, however, tsetse flies are not found at every point throughout the belt, but in particular patches the area of which may be quite small. Thus according to Bains "the fly is extremely local and extensive districts in which it prevails may be passed through by the aid of guides who know the 'patches' of fly, just as a pilot knows the shoals of an estuary." These fly patches are usually confined to reed swamps, to strips of jungle, to banana bushes, or to patches of mossani or mimosa forest. In short, the essential conditions of a tsetse station are the presence of water, a thickly wooded district, and a loose, fragmentary soil. The nature of the soil is probably of great importance. As a rule the fly patches are in rich sandy ridges near marshy spots. The limitation of the tsetse to definite tracts or "belts" has given rise to much speculation. The prevalent opinion is that the fly waits near water to feed on the animals that come down to drink. Mr. Austen advances a new hypothesis. He says: "The limitation of the tsetse to 'belts' is not as remarkable as might at first sight appear. There can be little doubt that it is due to a characteristic social tendency of the order to which these insects belong which, though frequently overlooked, is exhibited by the majority of species of diptera and has attracted special attention in the case of the tsetse, owing to their bloodthirsty nature and the fatal consequences of their bites." He further says that, in spite of the fact that the distribution of most species of diptera is remarkably wide, it will be found in the majority of cases that individuals of the same species do not occur everywhere throughout its area, but are confined to particular spots, and wherever they are met with they are usually to be found in some numbers. I do not think we can class tsetse flies among the "social insects." I can see no purpose for the association. As to the confinement of diptera to particular spots within the area of their distribution it is in conformity with the general laws of distribution. All animals, whether social or not, are confined to particular stations which offer the necessary œcological conditions. Besides, although Mr. Austen thinks that "the occurrence of tsetse flies in belts is not difficult of explanation," he says himself that "the fact that animals may be in perfect safety on one bank of a stream when bushes on the other side are full of the fly is exceedingly hard to understand." Mr. Austen, although fully aware of the peculiar distribution of tsetse flies, is not unfavourable to the theory often propounded by travellers and sportsmen that the fly follows the big game. I think I may safely state that the distribution of the tsetse fly is in no way connected with big game. The tsetse fly is not found in open plains, although such plains may be literally swarming with game, and, on the other hand, places devoid of game may be very dangerous "fly zones." The marked peculiarities shown by the distribution of tsetse flies exclude altogether the big game theory. The invariable association of the tsetse with streams, rivers, or other bodies of water is undoubtedly a very important feature in the natural history of glossinæ and one which needs careful investigation. Two main facts determine the distribution of animals: their breeding habits and the nature of their food. In the pupiparous genus glossina the association with water can only be related to food habits. I therefore suggested in my earlier paper that it may be related to the habit of feeding on fishes. A large proportion of the fish inhabiting the African rivers and lakes are air breathers. There are several species of anabas, three species of protopterns, three species of ophiocephalus, and no less than 100 species of siluroids. All these fish spend a great part of their life out of water and even when they are in water they are constantly obliged to ascend to the surface to breathe. They are quite incapable of supporting life by breathing water. When dry weather deprives their usual haunts of all moisture these fish bury themselves in the mud or migrate in large numbers to the nearest swamps. The siluroids of the genera clarias, clariallabes, and chaunallabes are of special interest; they live in burrows, like rabbits, coming out towards evening in quest of food. The flesh of most of these fish is much esteemed by the natives and in many places the women go and dig them out of their burrows. A connexion with the air-breathing fish would explain most satisfactorily the peculiar patchy distribution of the tsetse flies and their limitation to the borders of marshes or river banks. Of course, the connexion might be indirect, that is to say, the fly might not be after the fish but after some marsh rodent like aulacodus or after a fish-eating mammal like potamogale velox which inhabits the Gaboon, or after an otter such as lutra inunguis or lutra maculicollis which have a very wide distribution in Africa. I say this because in South America the natives point to a large water mammal as the original source of mal de caderas. Dr. Christy, who is now investigating sleeping sickness on the Congo, has promised me to elucidate this point. From what we know of the life history of the tsetse flies I think I may state that it will be easier to eradicate the glossinæ than it is to destroy the culicidæ. I beg you to forgive me if I have trespassed too long on your time.

Dr. NABARRO said he was sorry he had not returned from Africa when the first meeting on that subject was held and he had not had an opportunity of fully reading Dr. Sambon's paper. He did not intend going into any controversial points that night but perhaps he might be able to make a few remarks which would be interesting to the society, especially as since Colonel Bruce returned from Uganda the work which was started last March had been continued. When they arrived in Entebbe in March they were told by Dr. Castellani that he had examined the cerebro-spinal fluid in many cases of sleeping sickness and had found the trypanosoma in five out of 15. Moreover, Dr. C. J. Baker of the Uganda Service stated that he had found the trypanosoma in the blood of one native of Uganda. Of course, those two facts were extremely interesting because they were so very unexpected and at once led them to think that possibly the trypanosoma had something to do with sleeping sickness and to carry out investigations which they did in the subsequent months at Entebbe. While Dr. Castellani was there he carried out, with the assistance of Colonel and Mrs. Bruce, Dr. Moffat, Dr. Baker, and himself, a number of punctures and they increased his percentage from five in 15 to 19 in 34, which worked out at 56 and

not at 70, as erroneously stated in the report. During a few weeks Dr. Baker curiously enough came upon four other cases of trypanosoma in the blood, thus showing that the trypanosoma was not so rare as one might have expected. The patients with the trypanosoma in their blood came to the dispensary because they had an attack of fever and there was very little else the matter with them. They were under observation during the whole time at Entebbe. He himself saw all the men two months ago before he came away and they were all practically well. Every one of them had been punctured several times and there were no ill effects from it. They got up from the chloroform and after 20 minutes they went away. They had large numbers of trypanosomata in their blood, but later large quantities of blood had to be taken from them before the trypanosoma could be found. In no case did they show the trypanosoma in the cerebro-spinal fluid in the early months, but later (in July) two of them showed the trypanosoma present in the cerebro-spinal fluid. Consequently the theory suggested itself that the trypanosoma was possibly the cause of sleeping sickness and therefore they looked very carefully for any signs of sleeping sickness in those patients. Nothing, however was found to be the matter with them or the others. They were again examined a month afterwards and no trypanosomata were found. He also examined at the same time the patient who had the trypanosoma in his cerebro-spinal fluid and found none present. He thought that possibly in these two cases the trypanosoma found in the cerebro-spinal fluid was due to an appreciable amount of blood having got into the fluid. That, he knew, was a general objection to their theory though it did not apply to a large number of cases. But those two cases were still under observation at Entebbe and he thought that they might still contract sleeping sickness. After Dr. Castellani left, the subject being a very suggestive one, they naturally devoted their attention practically exclusively to the trypanosoma. The commission carried out several post mortem examinations and looked for the streptococcus and found it in several cases but not in all. They found the diplococcus pneumoniæ in two cases. Then they performed a large number of lumbar punctures in cases of sleeping sickness and in practically every case—he could not say the exact number of cases—they found the trypanosoma in the fluid. Sometimes the trypanosoma were extremely scanty. In some cases they had to repeat the puncture two or three times before finding the trypanosoma but eventually it was always found. In some of the cases there was a large number of trypanosomata. He was perfectly sure the trypanosoma did not get into the lumbar fluid owing to leakage of blood. A few days before he left Africa he examined the cerebro-spinal fluid of a native and found it teeming with trypanosomata and there was not a single red corpuscle in 20 fields of the microscope. That question of the trypanosoma in the cerebro-spinal fluid in sleeping sickness applied not only to Uganda but Dr. C. A. Wiggins had examined a large number of sleeping sickness cases on the north east of Lake Victoria Nyanza and he found the trypanosoma in every case in the cerebro-spinal fluid. He (Dr. Nabarro) examined the cerebro-spinal fluid of a Persian suffering from sleeping sickness and he found it teeming with trypanosomata. In cases where a large amount of the fluid was present it was sometimes difficult to find the trypanosoma but on repetition of the puncture the trypanosoma was generally found. Sometimes in a lumbar puncture the fluid came out at the rate of one drop in half a minute and the flow had to be increased by aspiration and in that way a good deal of time was saved and it did not do any harm to the patient. The next question was that of lumbar puncture in cases of "control" cases which did not show any obvious sign of sleeping sickness. It was rather difficult to get a native to consent to have chloroform and to have a puncture performed on him. He believed 15 of those cases were operated upon in the laboratory at Entebbe and all with a negative result. Dr. Wiggins had examined seven "control" cases, also with a negative result. And then there were those five patients whose cases he had mentioned, which it was very important to bear in mind because they had a considerable number of trypanosomata in their blood, and, moreover on several occasions there was an appreciable deposit of blood in the cerebro-spinal fluid, but on examining them the trypanosoma was not found in the cerebro-spinal fluid. Out of 16 cases of sleeping sickness the trypanosoma was found in the blood of 15. In the sixteenth case it could not be found. He classified those cases into different categories. The first was the examination of the blood of healthy people in non-infected areas in Uganda. There were parts of Uganda, especially the interior, where there was no sleeping sickness. People came from there into Entebbe to do a month's work as labourers and ten of them used to be sent every day to have their blood examined. From that non-infected area 66 people in all had their blood examined and all with a negative result. That was a very interesting and important fact which ought to be borne in mind. Similarly from a non-infected area in East Africa quite away from Uganda 50 natives were examined and in every case with a negative result; therefore in 116 observations in healthy individuals from non-infected areas the trypanosoma was absent from the blood. He believed he could say without error that all, perhaps excepting one, of those were examined by the centrifuge. That was to say, ten cubic centimetres were drawn off and the fluid was centrifuged and the serum was pipetted off, then the fluid was centrifuged again and the serum was pipetted off, and then it was centrifuged again and the serum was pipetted off: then the residue was examined. The fluid was re-centrifuged after an interval of ten minutes. The next category included natives from the infected areas—the shores of Victoria Nyanza and the islands especially. In the blood of 74 patients examined from those districts the trypanosoma was present in 17 cases, or 23 per cent. These numbers they would find slightly different from those given in the report of the Royal Society. They excluded other cases which did not come quite into this category. Lastly, there were the five cases of natives and one European who lived in Entebbe who developed the trypanosoma. From these data naturally they began to think that the trypanosoma had something to do with the disease and they accordingly turned their attention to the tsetse fly. They inquired in Entebbe whether they had the tsetse fly there and they were told "No." Afterwards at the end of March or the beginning of April they went out into the forest and found the fly. That showed then that they could not rely much on what they were told by the natives in Entebbe. But the fly was found and it was brought in by hundreds every day. He might perhaps say a few words about the distribution of the fly in Uganda. Very soon after finding the fly in Entebbe they thought it would be interesting to ascertain if possible whether the fly was found throughout Uganda and a circular letter was sent to all the missionaries and others to ask the natives to collect flies and to send them in. A large number of flies were sent in and a map was published by the Royal Society showing the distribution of the fly throughout Uganda. It was interesting to note that in one part of Uganda—on the right bank of the Nile—the fly went a long way inland along the course of the Nile. Why that was so they had not been able to make out. On the left bank of the Nile in the Uganda province the fly was practically never found in the interior. He asked for flies to be sent from the left bank of the Nile. This had been done, but hitherto not one tsetse fly was received. If they looked at the map showing the distribution of the tsetse fly and sleeping sickness they would find a very close similitude between them; that practically the distribution of the fly and of the disease was identical. He thought that was a very strong point in favour of the fly being the cause of the dissemination of the disease. He had travelled up the country and was struck by the fact that the fly was extremely localised to forest areas and to the water's edge and to dense undergrowth. He never found it on the papyrus swamps or the grassy plains. The islands were hotbeds of the disease and some islands were practically depopulated. He would like to say a few words as to the experiments they performed on animals. They used a large number of animals—monkeys, dogs, guinea pigs, sheep, goats, rats, donkeys, oxen, and a jackal, and yet unfortunately the animal experiments were not very satisfactory. Only monkeys, dogs, rats, and the jackal were found susceptible to the trypanosoma. The other animals injected failed to show the trypanosoma in their blood. In the case of the monkeys, very curiously a few weeks after inoculation trypanosomata appeared in the blood, and in some cases became quite numerous, but after a short time—perhaps a month—they began to disappear and when he left Africa practically all the monkeys failed to show trypanosomata in their blood and were nearly all in a perfect state of health. One of the monkeys died from tuberculosis and three others also died, but whether from sleeping sickness or not it was difficult to say. One point in this connexion that he would like to

bring out was that they did parallel experiments. They injected animals in pairs, one with the blood trypanosoma and the other with the cerebro-spinal fluid trypanosoma. The injections gave rise to a similar appearance in the monkeys and also in the dogs and other animals, and if the trypanosoma did not appear in the one it did not appear in the other. That led them to think that they were dealing with one and the same trypanosoma. Other experiments they carried out seemed to favour that view. For instance, after the trypanosoma had disappeared from the blood in the injected monkeys he reinjected them with the same trypanosoma to see whether the trypanosoma would appear again in the blood, but it did not as the animal had apparently become to a certain extent immune. He then injected the other trypanosoma (from blood or cerebro-spinal fluid, as the case might be) and when he left the country the trypanosoma had not yet reappeared in the blood of monkeys thus reinjected. That, he thought, would serve to show that the two trypanosomata were identical. He came next to the feeding experiments which had given rise to a certain amount of criticism. The flies which they used were similar, with very few exceptions having all been brought in from the country, and they were always kept over night so as to give them a good appetite. On the next day they were fed on an animal specially kept for the purpose which was called a "fresh fly" monkey or dog, as the case might be, with a clean bill of health. Then the flies were kept for 24 or 48 hours and finally put into the feeding box for the particular experiment to be carried out. The rearing of flies was very protracted, as each female had just one larva and it took six weeks to hatch and to become a fly. On the whole about 120 young flies were developed during the nine months in Entebbe. Dr. Sambon, in his paper, stated that fresh flies when put on a monkey took only two or three weeks to give rise to trypanosoma infection, whereas those first fed on sleeping sickness patients took six or eight weeks. That was quite true, but he thought he could give two or three reasons why that was the case. The fresh fly experiments were rapidly performed. In other words, having got perhaps 150 flies a day these were kept over night and then put on a monkey so as to get a positive result as soon as possible. Being always hungry the flies naturally fed very well and he thought that explained why the experiment succeeded. Then as to the six or eight weeks which were taken by the flies fed on sleeping sickness patients to give rise to trypanosoma infection some of the patients did not like the flies and frequently they put their hands under the blankets and took off the cages containing the flies so that quite few flies were fed. It seemed, too, that the flies got rather tired of the same patient and if kept on one patient they did not feed nearly so well. But what Dr. Sambon had said about finding trypanosomata in other animals was a good sound suggestion, and they did find trypanosomata in other animals. He had not yet presented his report to the Royal Society but he did find trypanosomata in other animals, only they were different trypanosomata. As to the question of trypanosoma in the monkeys, he could say emphatically that he never found the trypanosoma in a healthy monkey straight from the fields, so that he was quite sure the trypanosoma was not a normal parasite in the monkeys in Entebbe. In his subsequent remarks Dr. Nabarro said he thought that the death of Sir Patrick Manson's patient gave support to the theory that sleeping sickness was caused by the trypanosoma.

Dr. F. W. MOTT said that his experience was pathological, not epidemiological. At present there were two theories for the epidemiology: (1) trypanosoma, (2) diplococcus; and Dr. Castellani had latterly adopted both, the micro-organisms being of the nature of a secondary infection. With regard to the morbid histology of the central nervous system Dr. Mott had little or nothing to add to his original description which was published in the Transactions of the Pathological Society. Examination of a number of cases from Uganda and the European case of Sir Patrick Manson had only shown the correctness of his presumption that the chronic inflammation of the membranes and nervous substance of the whole brain and spinal cord existed as exhibited by an extraordinary accumulation of lymphocytes in the subarachnoid space and in all the rivers, rivulets, and streams of the cerebro-spinal fluid which surround the blood-vessels (the so-called perivascular lymphatics)—channels which carry the special nutrifying fluid of the brain and serve not only for the special metabolic processes of nutrition and the gaseous exchanges, but also to wash out the waste products. Such accumulation of lymphocytes would interfere mechanically with the circulation of the fluid, and biochemically by the lymphocytes taking up the oxygen which was normally intended for the nervous structures; hence a condition would arise not unlike that which he had seen in internal hydrocephalus, where ventricular accumulation of fluid produced lethargy and stupor, paresis, tremor, fits, &c. At first there was functional depression rather than destruction of the cells and fibres, later a true degeneration occurred. He might say that he had observed in several cases which he had examined, including the European case, a chemical change in the myelin sheaths with ut actual Wallerian degeneration, and he had observed the same appearance in certain chronic infectious processes. In the two cases which were in Charing Cross Hospital a striking feature was the universally enlarged lymphatic glands and he found on looking through Colonel Bruce's report that in every case, with one exception, the glands were enlarged—the exception being a case of cerebral tumour and not sleeping sickness. A missionary who attended the meeting of the Pathological Society four years ago stated that enlarged glands constituted a well-recognised symptom. They had then three definite pathological facts: (1) excess of lymphocytes in the blood contained in the vessels of the brain; (2) accumulation of lymphocytes in the perivascular lymphatics and the subarachnoid space; and (3) enlarged lymphatic glands. In two of the cases recorded by Colonel Bruce the glands were suppurating. Admitting that the glands of the groin and other superficial glands were very liable to enlargement in the negro, owing to sores, &c., and admitting that syphilis was very prevalent among negroes, still the fact remained that those causes would not account for practically nearly all cases having glandular enlargement or for the special pathognomonic change in what constituted the special lymph canalicular system of the nervous system. Was this due to trypanosomiasis? that parasite being really a blood parasite—or was it due to an organism such as the Portuguese described—the diplococcus? which as far as he could see was the same as Dr. Castellani had discovered, and to which in his first report he pinned his faith as the cause of the disease. Or did this organism, as he subsequently held (after his observation of the trypanosoma in the cerebro spinal fluid), act as an important subsidiary cause in a secondary infectious process? He stated in his report to the Royal Society that he had grown it with absolute certainty (and always pure) from eight out of ten post-mortem examinations from the cerebro-spinal fluid and blood of the heart taken with aseptic precautions. *In vita* he (Dr. Castellani) had found it only once in the blood, but he had grown it in two cases out of three from the cerebro-spinal fluid removed by lumbar puncture. In the *Journal of Tropical Medicine* of June 1st, 1903, he had given further observations showing that that organism was present in the blood of the heart in 32 out of 39, and in 30 out of 39 in the cerebro-spinal fluid. In connexion with those observations Dr. Mott remarked that that infection would account for the lymphatic gland enlargement and for the appearances which the cerebro-spinal subarachnoid and canalicular systems manifested in every genuine case of sleeping sickness. He had only had the opportunity of examining the lymphatic glands in two cases; one was that of the European patient of Sir Patrick Manson and the other was an enlarged gland which he had not previously examined from one of his old cases. In both of them he found the diplococcus. In the case of the former every section of the gland showed numerous clumps of those organisms lying in the lymph channels of the gland, which were filled with cells and fibrin like the appearances presented by the alveoli in croupous pneumonia. It might be said that diplococcus or streptococcus infection was due to bed-sores and lung disease. He did not think so, for the following reason. Dr. Eyre and himself had withdrawn cerebro-spinal fluid post mortem from 21 cases of insane patients who had died mostly with lung disease, and many with bed-sores; and after careful examination in not one did Dr. Eyre find diplococci, and in one only streptococci, and that was a case of suppurative parotitis. Staphylococcus aureus and albus were occasionally found and sometimes bacillus coli. He had been unable to find trypanosoma in the blood-vessels or subarachnoid spaces of sections of the central nervous system, although he had looked at hundreds of sections. It might be urged that they could not be seen in sections, only in smears, but his assistant, Dr. George Watson, and he himself had found that sections of the brain of a rabbit dying from Surra

showed enormous numbers of the trypanosoma, enough to produce mechanically the profound changes observed in the nervous system. But against the fact that they could not be seen in the vessels it might be said that they took on a different form or were hidden in the tissues in sleeping sickness. He did not regard the experiments on animals as conclusive. The strong arguments in favour of the trypanosoma being the cause of that remarkable disease to his mind was the admirable research as regarded the distribution of the fly, the distribution of the disease and its correlation with the existence of the fly and the existence of the trypanosoma in the blood of the natives by Colonel Bruce and his assistants. The case under Sir Patrick Manson's care was of great importance in showing the chronic nature of the disease. That was of exceptional interest because they found that the patient for a long time exhibited the trypanosoma in the blood and then died with the diplococcal infection which in this instance might therefore be assumed to be related to the onset of the symptoms.

Dr. C. F. HARFORD said that he had no right to say anything on the subject of sleeping sickness because he had not had an opportunity of making recent observations with regard to the disease. He had, however, a case of sleeping sickness under observation about 14 years ago and his attention was drawn to it by the natives who seemed to have a close acquaintance with the disease, although in their part of Africa (the Upper Niger) the disease presented itself in a sporadic form. One point which seemed to impress itself upon the intelligent natives was the occurrence of enlarged lymphatic glands and they had the idea that if the lymphatic glands were removed the disease would be cured. They told him that they had performed operations of that nature. He thought that they probably regarded all cases of enlarged lymphatic glands as cases of sleeping sickness and removed enlarged glands in cases where sleeping sickness had not developed and thus thought that they had cured the disease. He made inquiries of educated natives who knew a good deal about the subject and one fact they drew attention to was that no negroes in other parts of the world, as in the West Indies, and no American negroes seemed to develop the disease. Dr. Harford proceeded to say that he was specially interested in the subject from a practical point of view. There had been in his college, the Livingstone College, student missionaries who had had a good deal to do with the disease, who had been in the worst districts of the Congo and had seen much sleeping sickness there. He was also connected with the Church Missionary Society, and being physician to that society he had much to do with missionaries who had come from districts where the disease existed. Dr. A. R. Cook and Dr. J. H. Cook, he was sure, had contributed something to the elucidation of the problem of the cause of the disease. He did not know abler men than those two brothers, although they had not had much opportunity for scientific research, being arduous medical missionaries. He thought they were greatly indebted to Dr Sambon for having brought before them such a carefully prepared paper containing a large amount of evidence with regard to the important disease which they were considering and he hoped they might express the desire that some practical step should be taken to deal with the disease. It seemed to him that whatever might be the final conclusion on the subject there could not be the least question that the tsetse fly was a terrible scourge, not only to man but to animals, and that every effort should be made to see what might be done to deal with the fly. He might mention that one practical step had been taken in Uganda by the authorities of the Uganda Industrial Mission who, fully realising the danger of having their establishment in a district where the tsetse fly was prevalent, had actually taken steps to abandon most desirable premises in order to get away from that district. He thought that certainly they as a society ought to make practical use of the very important discovery in connexion with the cause of sleeping sickness.

Mr. JAMES CANTLIE asked if the disease was limited to the areas represented on the map. They were all afraid that it would spread on the Nile. He wished to know whether it was stationary or steady in its progress.

Dr. H. T. BULSTRODE remarked that so far as he understood the disease its medium of conveyence was the glossina palpalis and if this view was wholly true the danger of contracting the disease must be limited to the areas already inhabited by the fly or areas to which it may be carried. They had heard about the distribution of the fly in Uganda but not in Senegambia or Angola. He would like to know whether the areas of the disease and of the fly corresponded there. In his paper Dr. Sambon drew a terrible picture of the possible spread of the disease up the Nile across the Suez Canal and along the coast to India. He (Dr. Bulstrode) failed to see how that could happen. So far as he could gather, the disease was not directly communicable from person to person but only through glossina palpalis and therefore in the area of distribution of that fly. Dr. Nabarro had spoken of the depopulation of an island by sleeping sickness. This fact suggested that the distribution of the fly had extended or that the trypanosoma might have other agencies of spread than glossina palpalis. Otherwise it was difficult to understand how the island in question became peopled in the first instance. Dr. Bulstrode thought that if the distribution of glossina palpalis was not altering there should be little danger to the residents of fly-free areas in the importation of infected human beings, as the disease was not directly communicable. Probably, however, they were only in possession of part of the whole story.

Dr. NABARRO remarked, in reply to Mr. Cantlie, that the disease was spreading along both shores of the lake and in each case it was approaching German territory. The Germans were becoming rather anxious about it and sent one of their colonial surgeons over to Entebbe to study the disease there along with themselves. They showed him the fly and told him different facts concerning it and he returned ready to deal with the disease if it should reach his territory. With regard to how the disease was spread, that, he must own, was a difficult question, because the trypanosoma was very scanty in the blood of patients, but possibly more numerous in the earlier than in the later stages of the disease. Then, too, the latent period might last for several years, so that the patients might have had the infection imparted to them years before the disease showed itself. He took it that the fly had been in the country for a long time, but that the trypanosoma had only recently been introduced into the country. He knew for a fact that around the Albert Nyanza, to the north-west of the Victoria Nyanza, the fly was found all along the shore and yet there was no sleeping sickness there. That had been discovered shortly before he came away. One feared that if infected patients got there they might spread the disease because the fly was there. On the other hand, when infected patients got into the interior of Uganda the disease died out with them because the fly was not found there, just as malaria would where there were no mosquitoes. It was quite possible that certain animals might harbour some trypanosomata but these seemed to be different from the trypanosomata found in cases of sleeping sickness. No fewer than 50,000 people died last year from sleeping sickness on the shores of the lake and in Usoga, so that the disease was a serious thing from an economic point of view.

Sir PATRICK MANSON said there was no doubt about the existence of sporadic cases as mentioned by Dr. Harford. Occasionally, cases had occurred on the West Coast of Africa, as, for instances, in Senegambia, Sierra Leone, and the Upper Niger, and there the disease did not appear in an epidemic form. It would be interesting to know the relation that these cases bore to the presence of the trypanosoma in the general population of those particular places. A good many years ago he was asked to see a patient who had come from German East Africa and who presented a combination of symptoms that he confessed he could not understand—a peculiar tachycardia, a peculiar irregular temperature, an enlarged spleen, great prostration, and half a dozen other symptoms which now he knew must have belonged to trypanosomiasis, possibly to sleeping sickness. If there was one case of that disease in German East Africa why should there not be many cases? It was quite possible that the disease might prevail in many places but had not been recognised. This was borne out by something that had been ascertained during the last few weeks as regarded another disease which belonged to the same category as trypanosomiasis. He alluded to a disease known in India as kala-azar, which was probably due to a parasite inhabiting the spleen and the liver. Formerly it was thought that this disease was limited to certain areas in India and had travelled in epidemic form and depopulated the places over which it passed. But now it appeared that a similar disease existed in China and only lately a German had recorded a case of that disease in an individual who came from Peking. In some

places the disease was epidemic and in others it was sporadic. It would be exceedingly interesting to find out what were the exact conditions which determined endemicity and sporadicity. It had been suggested that the entrance of the trypanosoma into the cerebro-spinal fluid was the determining cause of the symptoms of sleeping sickness. He thought that view was a little far-fetched. He thought that the trypanosoma was the cause of sleeping sickness but to particularise as to the precise way in which it caused sleeping sickness—by its entrance into the cerebro-spinal fluid for example—was going a little beyond the facts. When a patient was afflicted with encephalitis or inflammation of the cerebro-spinal system naturally the parts were all congested and the vessels were so distended that there was an escape of blood undoubtedly at times into the cerebro-spinal fluid and they would naturally expect that an organism like the trypanosoma which was capable of defending itself against phagocytes and which had so escaped would remain present in the fluid for a considerable time. An analogous condition was seen sometimes as the result of filaria of the blood giving rise to stasis regurgitation in the lymphatic vessels; if the tunica vaginalis was involved in such a case there were sometimes rupture and the effusion of lymph into the cavity of the tunica vaginalis. If this lymph were examined there would be found in it millions of living filariæ, these being much more abundant than in the ordinary lymph. The reason of this phenomenal abundance of filariæ was that the filariæ escaped into the cavity of the tunica vaginalis but could not find their way out of the serous sac and so accumulated there. The same thing happened in the case of the escape of trypanosomata into the cerebro-spinal fluid, and therefore he thought that they should not attach too much importance to the notion about the appearance of the trypanosoma in that fluid in connexion with the pathology of the disease. He would like to say one word in conclusion. He thought that the profession had been a little unjust. He did not want to speak about questions of priority, but he thought that the profession had been a little unjust in the way in which it ignored the work of the early investigators into the Uganda disease. When Dr. Low, Dr. Castellani, and Dr. Christy were sent out by the Royal Society they had specific directions to investigate on certain lines. More especially they were asked to determine if the filaria perstans was the cause of sleeping sickness. They were to ascertain if the areas of the parasite and the disease corresponded or not. That piece of work they carried out thoroughly and they got little credit for it. A second thing they were to do was to endeavour to find out any micro-organism that might possibly be the cause of the disease. That they certainly did. In the first place, they determined the presence of the diplococcus which Dr. F. W. Mott said he had also found in some of the cases that he had investigated and they further demonstrated the presence in a large proportion of cases of the trypanosoma in the blood. He thought that those early commissioners sent out by the Royal Society had done their work thoroughly and ought to receive due credit.

Dr. MOTT said that he had only found diplococcus in every section of the glands and other organs in Sir Patrick Manson's case. He was referring to Dr. Castellani's work when he said 80 per cent.

Colonel T. C. MCCULLOCH, R.A.M.C., said he believed that Colonel Bruce had examined a number of flies and actually found the trypanosoma in their proboscides. He would also like to point out an inaccuracy perhaps in Dr. Sambon's paper. When Dr. Sambon spoke of the conveying of malaria by malarial-infected blood he could scarcely mean malarial-infected blood.

The PRESIDENT said that the cordial thanks of the society were due to Dr. Sambon for his paper which had led to a most instructive and valuable discussion.

Dr. SAMBON, before replying to the various criticisms, said that he must in the first place thank those present very much for the kind way in which they had listened to him. He was very pleased to hear Dr. Nabarro's remarks. Dr. Nabarro had explained the short period elapsing between the first bite and the appearance of the trypanosoma in "fresh-fly" monkeys by the fact that those experiments were pushed and that many flies were used. But from the "Further Report" he gathered that in the other sets of experiments equal numbers of flies were used. He thought it was to be regretted that Dr. Nabarro and his collaborators did not try experiments with stomoxys which by some observers was said to convey nagana. It was also to be regretted—knowing that the fly was to be found on one bank of the Nile and not on the other—that they did not thoroughly investigate this all-important point. Dr. Nabarro had further remarked that the rearing of flies for experiments would involve years. Well, perhaps the results would have been obtained later, but they would have been of a more definite and valuable kind. Dr. Bulstrode had asked if the areas of the disease and of the fly corresponded in Senegambia and Angola. As to Senegambia and Angola we had no information, but on the Congo Dr. Brumpt, from very careful investigations, had shown that there was a very close connexion between the fly and sleeping sickness. There were cases in which Dr. Brumpt noticed that the disease was more prevalent amongst women and in other places amongst men. He was able to show that where the women got water from certain places they contracted the disease but not so with the men who remained inland for agricultural work. In other cases where the men went to fish they contracted the disease but the women who remained in their villages did not do so. Dr. Sambon agreed with Colonel McCulloch that the trypanosoma had been found in the proboscis of the tsetse fly. With regard to malaria it could be conveyed by means of needle infection with malarial blood. For instance, at the St. Spirito Hospital in Rome Dr. Panichi was examining a slide of malarial blood and broke the slide and cut his finger and after a short time of incubation he suffered from a severe attack of malarial fever. In the discussion that followed my paper at the last meeting Professor Lankester said I should correct the statement in my paper with reference to the importance given by Dr. Castellani to his own discovery. I am sorry that I cannot oblige Professor Lankester. I am well aware that Professor Lankester contends that Dr. Castellani did not understand that the trypanosomes which he had found in the cerebro-spinal fluid of sleeping sickness cases could have anything to do with the disease until Colonel Bruce pointed it out to him. I know also that numerous articles have appeared in medical and non-medical papers expanding greatly on Dr. Castellani's discovery of a streptococcus in sleeping sickness and even going the length of reproducing a factitious illustration of the bacterium. But all this is very unjust. I used the very words employed by Colonel Bruce in his progress report:—

> Dr. Castellani informed us of the work he had done, one especially interesting observation being that he had discovered trypanosomes in the cerebro-spinal fluid in five out of 15 cases of sleeping sickness. Dr. Castellani remained in Entebbe for three weeks after the arrival of the new commission and during this time he examined 29 further cases for trypanosomes with the result that 70 per cent. were found to contain these parasites. Dr. Castellani, we presume, has already published these results. After his departure the commission continued to pursue this line of work.

In his further report Colonel Bruce says:—

> At the time of the arrival of the commission Castellani did not consider that this trypanosoma had any causal relationship to the disease but thought that it was an accidental concomitant like filaria perstans.

Now let us place ourselves for a moment in Dr. Castellani's place when he found a trypanosoma in the cerebro-spinal fluid of a patient suffering from sleeping sickness. Should we have jumped at once to the conclusion that the trypanosoma was the cause? Later, when Dr. Castellani found the trypanosoma in five out of 15 cases, would it have been reasonable to incriminate the trypanosoma when it was known that trypanosoma fever was present in Uganda? But when the trypanosoma was found in 70 per cent. of sleeping sickness cases and not in the cerebro-spinal fluid of trypanosoma fever cases and never in healthy persons, was it necessary for anyone to point out that there might be a connexion between the trypanosoma and sleeping sickness? Professor Lankester disparages my remarks concerning the transmission of sleeping sickness. He says that there is nothing in them. The suggestion that glossina palpalis was the carrier would occur to anybody. The real interest in the matter is that Colonel Bruce found the glossina palpalis where it was not previously known. I have fully explained in my paper the reasons which led me to incriminate a West African tsetse, and more especially the widely distributed glossina palpalis. I know full well that the suggestion of a tsetse fly occurred to many; it occurred to Professor Blanchard, to Professor Laveran, to Dr. Mesnil, to Dr. Castellani, to Dr. Brumpt, to Colonel Bruce, to Professor Lankester, and to many others, but, as Dr. Brumpt stated in the discussion, there is some difference between a mere suggestion based on analogy and the deduction from carefully observed facts. As to the discovery of the tsetse in Uganda,

surely Professor Lankester knows that tsetse flies have been known to occur in Uganda for many years past. Sir Harry Johnston in his book on the Uganda Protectorate says, "Flies of the genus glossina exist in the Uganda Protectorate. They have been caught there by Mr. Jackson and myself, not to mention many other collectors." Professor Lankester's generosity towards Colonel Bruce has no limits. In the preface to Mr. Austen's monograph on tsetse flies, he states that the discovery by Colonel Bruce of trypanosoma Brucei in nagana has been followed by a discovery of a similar parasite in surra. Unfortunately, the surra parasite was discovered 15 years previously. Sir Patrick Manson expressed a doubt that trypanosoma Gambiense might not be the cause of sleeping sickness. And this doubt was also expressed by Professor E. Ray Lankester. Considering that Sir Patrick Manson has himself contributed the most convincing evidence in favour of a causal connexion between the trypanosoma and the disease I think his doubt was more figurative than otherwise. The analogy between the symptoms of sleeping sickness and those peculiar to nagana, surra, and other trypanosoma diseases of horses, dogs, and cattle, the constant presence of trypanosomes in patients suffering from the disease, the appearance of brain symptoms in concomitance with the invasion of the central nervous system by the parasite, the development of sleeping sickness in people far and long removed from the endemic centres of the disease, the demonstration here in England of trypanosomes in the blood of Sir Patrick Manson's case long before the manifestation of nervous symptoms, and the striking experiments mentioned by Dr. Brumpt show that there can be no further doubt as to the cause of sleeping sickness.

HUNTERIAN SOCIETY.

Pain and its Importance in Diagnosis and Tendency to Mislead.—Diffuse Mastitis of the Right Breast

A MEETING of this society was held on Jan. 13th at the London Institution, Finsbury-circus, the President, Dr. STEPHEN APPLEFORD, being in the chair.

The second Hunterian lecture was delivered by Mr. ANTHONY A. BOWLBY, the subject being Pain and its Importance in Diagnosis and Tendency to Mislead. The lecturer first pointed out the great utility of pain and how it was essential to the preservation not only of the organism but of every tissue. He went on to point out how variable was the value of pain as a symptom. In children it was a most important and valuable sign. "Growing pains" and "rheumatic pains" were frequently due to tuberculous bone and joint diseases and many other serious conditions. In old age pain is often very slight considering the gravity of the condition which excites it, such as strangulated hernia and calculus of the bladder. Mr. Bowlby then gave illustrative cases where dull, stolid people complained of no pain, whilst nervous, highly cultured people stated that they were in agony with similar conditions. Neurasthenic pain may be produced in previously strong men by illness, accident, excessive mental strain, or indulgence in drugs. This Mr. Bowlby illustrated from his South African experiences. He then passed to the localisation of pain and particularly to what is known as "referred pain." He warned his hearers against the diagnosis of sciatica and gave cases in which this diagnosis obscured a sarcoma of the ilium, a secondary deposit of cancer in the femur, and a large tuberculous abscess in the gluteal region. Mr. Bowlby then spoke on the reference of intestinal pain to the umbilicus and pointed out that in the earlier cases of appendicitis the pain often was not located in the right iliac fossa but was general or was referred to the umbilicus. The appendix hung free in the peritoneum in these cases, but when it contracted adhesions to neighbouring parts the pain was localised.—Dr. T. GLOVER LYON, after thanking Mr. Bowlby, spoke of pain in Semitics and the possibility of causing it by suggestion.—Dr. J. ADAMS contrasted the sensibility to pain in Hebrews and in Indian fanatics and spoke of the absence of pain in some cases of cancer and appendicitis.—Dr. ARTHUR DAVIES narrated a case of aneurysm which was painless, although it eroded vertebræ. He thought medical men should guard against suggesting pains to their patients.—Dr. E. W. GOODALL raised the question as to whether the power to bear pain had increased since the introduction of anæsthetics. He pointed out that the abdominal pain in some cases of acute pneumonia often led to errors in diagnosis.—Mr. J. S. HOSFORD referred to multiple aneurysms without pain.—Dr. W. LANGDON BROWN spoke of a case of extreme pain in the head which was never accounted for. He alluded to Mr. H. L. Barnard's published opinion that where abdominal pain occurred in chest cases the diaphragm was, as a rule, involved.—Mr. BOWLBY, in reply, said that Semitics bewildered surgeons by unaccountable rises of temperature as well as by pain. He thought that the appreciation of pain increased with the development of the intellectual faculties.

Dr. H. V. HICKMAN showed a case of diffuse Mastitis of the Right Breast in a woman, aged 44 years. Ten months ago a diffuse lump appeared in the lower part of the breast. This did not feel very different from the rest of the breast. Two months ago a hard cord appeared which now reached nearly to the umbilicus. Dr. Hickman asked for a diagnosis.—Mr. BOWLBY and Mr. BARNARD agreed that the lump was probably scirrhus starting in a chronic mastitis and should be explored and dealt with accordingly.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on Jan. 13th, Dr. N. T. Brewis, the President, being in the chair.—Dr. J. M. Munro Kerr, Glasgow, read a paper on Vaginal Cæsarean Section. He pointed out that Dührssen's name was specially associated with this operation as he had since 1895 strongly recommended it. Speaking generally, criticism had been rather adverse to the operation although Bumm and a few others had expressed themselves strongly in its favour. Dr. Kerr thought it most unfortunate that this method of treatment should be pitted against dilatation by Bossi's or other dilators as each had its place. The operation was a much more extensive one than the making of deep incisions into the cervix already obliterated, for it consisted in stripping the bladder off the anterior uterine wall, possibly the peritoneum from the posterior, and splitting the cervix anteriorly and if necessary posteriorly right into the uterine cavity. He then described a case in which the patient was suffering from hyperemesis gravidarum and at the end of the fifth month became suddenly and extremely collapsed. Dilatation was attempted but the cervix was extremely rigid, so much so that only a No. 10 Hegar's dilator could be introduced. The bladder was then stripped off the uterine wall and a median incision was made right through the internal os and the fœtus and placenta were easily removed. The uterine wall was then stitched up and the bladder was brought down into its place. The stitching was not difficult and there was no bleeding. The patient made an excellent recovery and the wound healed perfectly. The following arguments in favour of Dührssen's operation have been advanced. 1. It is sometimes the only method by which rapid emptying of the uterus is possible, as in cases of extreme rigidity of the cervix. 2. It is the most rapid method of emptying the uterus. 3. There is little shock and the wound obtained has clean-cut edges. The disadvantages are that it requires some surgical skill, good light, and competent assistants. It was an operation less suited to general practice than dilatation with Bossi's instrument. In conclusion, Dr. Kerr thought on the whole that the operation was not often called for, although he was quite convinced it was the best method of treating certain cases. The conditions in which he thought the operation most suitable were cases of extreme rigidity of the cervix and accidental hæmorrhage where hysterectomy was at present advocated.—Dr. J. W. Ballantyne read a paper on the use of Bossi's Dilator in Eight Cases of Complicated Labour. He had made use of it in both gynæcological and obstetric practice but had not been impressed with its advantages over other means of cervical dilatation in purely gynæcological cases. Details of eight obstetric cases in which Dr. Ballantyne had used this dilator were given. Case 1 was that of a primipara with eclampsia. Œdema was present, she had a narrow pelvis, and the head was in the right occipito-posterior position. When seen she had passed through three convulsive seizures and the os was about one inch in diameter. Bossi's dilator was introduced and in 20 minutes the os was as fully dilated as the pelvis would permit. Forceps were applied with difficulty but traction had no effect and as there was very little chance of saving the child basilysis was performed. Hæmorrhage occurred in the third stage, which was found to be due to adherent membranes and not from any laceration caused by the dilator. The mother made a

good recovery. Case 2 was that of a primipara who had had five eclamptic seizures before being seen. She was six and a half months pregnant; the os was very rigid and little more than one inch in diameter when the dilator was inserted. Owing to the rigidity 35 minutes were allowed to elapse before the size of the os was increased to three inches. The child, non-viable, was easily delivered with forceps. The mother made a good recovery. Case 3 was another case of eclampsia in a primipara in the eighth month of pregnancy. When the dilator was inserted the os was little more than one inch in diameter and in 15 minutes it was dilated to 9 5 centimetres (nearly four inches). The child, who was alive, was easily delivered with forceps; the mother recovered. Case 4 was that of a quartipara with albuminuria and a very rigid os. Morphine and chloral had been given but with no good effect. After 50 hours of labour the os was about two inches in diameter and the cervix was very hard. Digital dilatation had no effect on it, so Bossi's dilator was introduced and the os was fully dilated in 30 minutes. Delivery was then accomplished easily by forceps. Case 5 was that of a tertipara with a narrow pelvis who had had craniotomy performed in her two previous pregnancies. Induction of premature labour was decided on in this pregnancy and Bossi's dilator was used for this purpose. In half an hour the os was dilated to about three and a quarter inches, the blades then being in close contact with the pelvic walls. Forceps were applied and a living child was born alive but died in a few hours. Case 6 was that of a primipara with probable post-maturity of pregnancy. Labour was induced by passing a bougie into the cervix but dilatation was very slow and as the membranes had ruptured Bossi's dilator was applied and effected its complete dilatation in 25 minutes. Case 7 was that of a quintipara with hydramnios, placenta prævia, face presentation, and a rigid cervix. Bossi's dilator was used and the os was dilated up to three inches but the cervical tissues were very resistant and in this instance the effect of the dilator was rather disappointing. Perhaps the character of the cervix was not such as to yield readily to strong pressure in a short time; it might have been better to dilate more gradually. Case 8 was that of a sextipara near full term. Accidental hæmorrhage had occurred with great loss of blood before being seen. The os was one and a half inches in diameter and the placenta could not be felt. The general symptoms were urgent and as bleeding was still going on it was necessary to deliver as soon as possible. The dilator was inserted and complete dilatation was effected in ten minutes. Bossi's dilator was a powerful instrument for use in exceptional obstetric conditions. It was much to be preferred to multiple incision of the cervix for rapid dilatation of the os. In its use experience taught the degree of resistance when dilatation should be suspended and a pause given before again turning the screw for further dilatation. If dilatation were carried out intermittently there was little danger of a cervical tear. The distal ends of the blades must be inside the os internum or the cervix would be torn. Dr. Ballantyne preferred the four-bladed Bossi dilator to the other types. The two dangers in its use were sepsis and laceration of the cervix. It must be remembered that it was the most powerful instrument in the obstetric armamentarium with the exception of the destructive cranioclasts and comminutors. Asepsis must be carefully attended to.—The President, Professor A. R. Simpson, Dr. James Ritchie, Dr. F. W. N. Haultain, and Dr. A. D. Webster discussed these papers and Dr. Kerr and Dr. Ballantyne replied.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 14th, Dr. Heywood Smith, the President, being in the chair.—After the reading and adoption of the reports of the retiring honorary treasurer, Dr. W. Travers, and of the editor of the journal of the society, Dr. J. J. Macan, and some formal business, the following officers of the society were elected for the year 1904: President: Dr. John W. Taylor. Vice-Presidents: Mr. E Stanmore Bishop, Professor Murdoch Cameron, Mr. F. Bowreman Jessett, Sir Arthur V. Macan, Dr. H. MacNaughton-Jones, Dr. J. A. Mansell Moullin, Mr. Christopher Martin, Dr. F. F. Schacht, Professor Alfred J. Smith, Dr. Heywood Smith, Mr. W. D. Spanton, and Dr. Travers. Treasurer: Dr. W. H. Slimon. Members of the Council: Mr. G. R Carter, Dr. Eber Chambers, Dr. R J. Colenso, Sir J. Halliday Croom, Dr. T. M. Dolan, Dr. W Duncan, Dr. F. Edge, Dr. George Elder, Dr. T. J. English, Dr. Bedford Fenwick, Dr. J. Haig Ferguson, Dr. Clement Godson, Dr. Arthur Helme, Dr. James Jardine, Dr. Henry Jellett, Dr. J. Macpherson Lawrie, Dr. R. P. Ranken Lyle, Dr. S. Lloyd, Mr. J. Padman, Mr. A. W. Mayo Robson, Mr. Charles Ryall, Dr. R T. Smith, Dr. Herbert Snow, and Mr. H. F. Vaughan-Jackson. Secretaries: Dr. Macan, Dr. J. Hutchinson Swanton, and Dr. S. Jervois Aarons. Auditors: Dr. F. A. Purcell and Mr C. H Bennett.—The President showed Frommer's Modification of Bossi's Instrument for dilating the cervix and demonstrated the ease with which each of the eight blades could be removed, the facility of its introduction, and the diminished risk of laceration.—Dr. Mendes de Léon of Amsterdam gave an address on a Source of Infection during Operations hitherto not sufficiently recognised, in which from a series of extended experiments he concluded that during an ordinary operation the surgeon would probably speak 300 words; that the repetition of the same 300 words against prepared agar plates placed in a sterilised box of suitable construction resulted in colonies of staphylococci, streptococci, and other micro-organisms owing to the projection upon the plates of about a quarter of a million germs in minute particles of saliva; that inoculations of saliva produced in animals a specific peritonitis from which the above micro-organisms could be cultivated; and that though the power of resistance of the peritoneum was great and the contact of such germs, which were not necessarily always virulent, did not invariably cause infection, the words of necessity uttered by an operator were likely to convey such germs to the field of operation, and that masks of one or two folds of gauze would not preclude such infection. He therefore recommended the use of a respirator containing, between two plates of perforated metal, a layer of cotton wool, which he had found prevented the infection of the agar plates in the sterilised box and which he had been able to wear without discomfort in operations lasting from one hour to one and a half hours.—The paper was discussed by the President, Dr. Macnaughton-Jones, Dr. Snow, Dr. Macpherson Lawrie, Dr. Bedford Fenwick, and Dr. W. J Smyly, most of whom agreed that if the mouth required guarding the nostrils should also be protected.—Dr. Mendes de Léon, in reply, insisted that, save in case of disease of the respiratory tract, the danger was from the saliva rather than from the breath, and that satisfactory as the results of operation, especially in gynæcology, now were, nought but good could result from the recognition of the danger he had described.—He was thanked for his communication and the President then read a Valedictory Address, reviewing the work of the society during his year of office.—On the motion of Dr. Taylor a cordial vote of thanks was carried by acclamation to the President for his address and for his conduct of the business of the society during the past year.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Jan. 11th, Mr. A. E. Maylard, the President, being in the chair.—Dr. John Rowan showed an infant whom he had under observation and who suffered from a growth of the iris which he believed to be a gumma. There was a distinct syphilitic history.—Professor Robert Muir showed as a fresh specimen a hæmorrhage into the pons Varolii and crura cerebri and granular kidneys from the same case.—Dr. A. N. McGregor demonstrated a case of Varicosity of both Superficial Epigastric Veins. The condition commenced after an attack of enteric fever seven years ago and was regarded as due to thrombosis of the iliac veins on the left side. The varicosity acted as a relief channel, the blood flowing up the left epigastric and through a large anastomosis and down the right epigastric to the right femoral vein. The veins emptied themselves when the patient was in the recumbent position. Dr. McGregor was of opinion that the lumen of the thrombosed vessels had been partly restored.—Dr. James Carslaw and Professor Muir described the clinical and pathological features of a case in which Rupture of a Hydronephrosis occurred. The illness set in with vomiting and pain which suggested appendicitis. Operation revealed a swelling round the right kidney. The swelling was then incised and drained from behind. The patient died from suppression of urine which set in immediately after the first vomiting. At the post-mortem examination bilateral hydronephrosis with rupture of the pelvis of the right kidney was discovered. The nature of the obstruction could not be made out. Kinking of the ureters appeared to be the most probable cause.—Mr. Henry E. Clark showed an Eyeball

which had been removed on account of a tumour which he believed to be a secondary deposit resulting from carcinoma of the mamma. The tumour of the mamma had been removed four years ago. It recurred and on account of this double oöphorectomy was performed and treatment by the x rays was afterwards used. Secondary tumour in the eyeball was an extremely rare condition and the specimen had not yet been examined microscopically, so that its nature was still uncertain.—Mr. Henry Rutherfurd showed a specimen of Unilateral Hydronephrosis due to kinking of the ureter by the renal vessels. He also showed a Humerus the seat of rapidly developing sarcoma having a relation to an injury. Three weeks after a fall the patient was examined but no evidence of fracture was found. Three days later fracture resulted from another fall and a tumour then formed very soon. The arm was amputated seven weeks after the first injury; the patient, who was a boy about six years old, died from shock.

ROYAL MEDICAL SOCIETY OF EDINBURGH.—A meeting of this society was held on Jan. 8th, Dr. H. D Shepherd being in the chair.—Mr. J. W. Dowden gave an address on the Treatment of Shock. After discussing the varieties and etiology of shock he referred to an interesting series of experiments made in America on the effect produced on vaso-motor pressure by laceration of various parts of the body in animals. In almost all regions the effect of injury was increase in blood pressure, the abdomen and the scrotum being exceptions. In preventing shock as the result of anæsthesia Mr. Dowden believed that there were great possibilities in the use of local anæsthetics. Such major operations as the removal of an arm with the corresponding part of the shoulder girdle had been performed under cocaine, the patient being quite ignorant of what was going on. In the use of general anæsthetics the preparation of the patient as ordinarily done by a process of starvation and purging should not be too rigorously carried out. Even within an hour or two of the operation readily absorbed food might be given by the mouth and the patient might have a nutrient enema. In the actual treatment of shock warmth and friction were important factors. Of drugs strychnine and digitalin were the most valuable. Any good effect of alcohol was probably temporary and due to its action as an irritant, such an irritant as capsicum being even more effective. Injection intravenously of normal saline solution, except in cases of hæmorrhage, was more dangerous than useful.—A paper on Pubiotomy by Dr. F. D. Simpson was read in his absence by Mr. A. MacRae.—Dr. T. B. Hamilton read a paper on Pleural Effusion. He said that the microscopical examination of the fluid was very important, for in this way it could be determined whether the condition was of tuberculous or inflammatory origin or whether it was merely dropsical.

BRISTOL MEDICO-CHIRURGICAL SOCIETY. — A meeting of this society was held on Jan. 13th, Mr. J. Paul Bush being in the chair.—Dr. H. Elwin Harris showed a case of Congenital Absence of the Left Auricle and External Auditory Canal with Facial Paralysis.—Mr. H. F. Mole showed (1) patients on whom the Radical Mastoid Operation or Ossiculectomy had been performed for the cure of chronic suppuration in the middle ear; (2) a patient on whom Choledochotomy had been performed; (3) a specimen of a Tumour growing from the cartilaginous septum of the nose; and (4) a Skiagram of an Unusual Dislocation of the Ankle.—Dr. J. M. Fortescue-Brickdale showed a specimen of a Cyst below the liver, apparently an accessory gall-bladder, and the Brain of a child showing simple meningitis and considerable dilatation of the ventricles.—Mr. James Taylor showed a skiagram from a case of Scurvy Rickets.—Dr. E. W. Hey Groves read notes and showed the specimen of a case of Tubal Gestation producing severe internal hæmorrhage without rupture.—Mr. W. Roger Williams discussed the case.—Dr. W. K. Wills read a paper on the Present Position of Radiography in Therapeutics.—Mr. Bush, Dr. Harrison, Dr. P. Watson Williams, and Mr. Taylor discussed the paper.—Dr. Theodore Fisher read a short paper on Hæmatemesis associated with small white kidneys.—Dr. Watson Williams, Dr. E. H. E. Stack, and Dr. J. A. Nixon made remarks on the cases.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The monthly meeting of this society was held on Jan. 13th, Mr. E. F. White, the President, being in the chair.—Mr. J. H. Targett read a paper on Some Difficult Cases of Uterine Hæmorrhage and exhibited specimens illustrating the lesions described. The cases were grouped under the following headings: (1) Hæmorrhages occurring in very early pregnancy; (2) post-climacteric hæmorrhage; and (3) hæmorrhages due to general disorders, such as chronic alcoholism, Bright's disease, and the like.—After the reading of the paper a discussion took place to which several members of the society contributed.—At the close of the meeting the general business of the society was transacted.

Reviews and Notices of Books.

The Lymphatics. In two Parts: 1. The General Anatomy of the Lymphatics, by G. DELAMARE. 2. The Special Study of the Lymphatics in Different Parts of the Body, by P. POIRIER, Professor of Anatomy, and B. CUNÉO, Professor (*agrégé*) to the Faculty of Medicine of Paris. Translated and edited by CECIL H. LEAF, M.A., M.D. Cantab., F.R.C.S. Eng., Assistant Surgeon to the Cancer Hospital. With 117 Illustrations and Diagrams. Westminster: Archibald Constable and Co., Limited. 1903. 8vo, pp. 301. Price 18*s.* net.

DURING the last 12 years a monumental work on anatomy has been slowly but steadily progressing in France under the able direction of Professor Paul Poirier of Paris, with the collaboration of Professor A. Charpy of Toulouse, Professor A. Nicolas and Professor A. Prenant of Nancy, and Professor T. Jonnesco, prosector to the Faculty of Paris. Four large volumes, averaging 1000 pages each, have appeared and only the part devoted to the senses remains to complete this splendid treatise. The section on the lymphatics belongs properly to the second volume long since published but its appearance has for some reason been delayed and Professor Poirier, finding that he was unable to write the description of the general anatomy and histology of the lymphatic system, intrusted it to Dr. Gabriel Delamare, reserving for himself and Professor Cunéo the special study of the lymphatics of the different parts of the body. The whole section, which appeared in 1902, has now been translated into English by Mr. Leaf, and after comparing many pages of the translation with the original we congratulate him on having rendered the French into English with great accuracy and on presenting to his countrymen an excellent account of the present state of knowledge of the lymphatics as it is taught and understood in France.

The general anatomy of the lymphatics, written by Dr. Delamare (unaccountably written Delamere in the title page of Mr. Leaf's translation and in the editor's preface, and again at the heading of the article), commences with a description of the leucocytes of the blood, their movements and reproduction, and the action of staining agents upon them. The microcytes and macrocytes, and finally the cells of Ehrlich, are considered in succession. The microcytes, which are of about the size of red blood corpuscles, have received many names. They are the free nuclei of Robin, the lymphocytes of Einhorn and Ehrlich, and the leucoblasts of Denys; they are not phagocytes and have only a limited power of movement. They are found normally in the blood and lymph, the lymphatic glands, the spleen, and the red marrow of bones. By the concurrent estimates of several good observers they constitute about 25 per cent. of the white corpuscles of the blood. Dr. Delamare himself found in the fluid taken from the thoracic duct of the dog (he does not specify whether after food or in the fasting state) that out of 133 elements 128 were microcytes. The macrocytes or macrophages of Metchnikoff are of much larger size; they are amœbic and extremely phagocytic. They digest the bacillus of Hansen, red corpuscles, leucocytes, and even particles of sulphate of arsenic. In the enumeration given by different observers their number varies

from 1 to 13 per cent. of the leucocytes. They are found in the blood and lymph, the lymphatic glands, the spleen, and the bone marrow. The third form of white corpuscle or cell with neutrophile granules is the polynuclear leucocyte or leucocyte with a polymorphous nucleus of Metchnikoff. It constitutes about 70 per cent. of the leucocytes of the blood. These corpuscles are very amœbic and very phagocytic. Other forms of cells described by Dr. Delamare are the cells with acidophile granules, the alexocytes of Kanthack and the eosinophiles of Denys. The phagocytic power and amœbic movements of these leucocytes are feeble. Lastly, there are the basophile granules—metachromatic cells or cells of Ehrlich. All these are fully described by Dr. Delamare with abundant references to the opinions of the numerous observers who have spent so much time in the elucidation of these objects and who have still left so many points obscure.

The second part of the book, by Professor Poirier and Professor Cunéo, is much longer than the first and gives an account of the distribution of the lymphatics of the different organs of the body. This is illustrated by many beautifully executed woodcuts and we have not seen any account of the lymphatics of the pelvis approaching in precision that here given. It will prove of special interest to obstetricians, since the lymphatics of the uterus, the vagina, and the adjoining parts are given in great detail. The chyle vessels are not described on account of their structure being relegated to another volume of the "Anatomy" of Professor Poirier and Professor Charpy. We are rather surprised that amongst the numerous names given in the text and in the very large bibliography that of Dr. Ludwig Teichmann should be missing, since his figures were not only very accurate but are the source of many of those that adorn our text-books. Professor Poirier and Professor Cunéo give the proceedings that have been adopted by many anatomists and histologists to inject the lymphatics, together with an account of the fluids employed, which have been very various, including among others mercury, wax, oil, a saturated aqueous solution of Prussian blue, gelatin, and turpentine. A due meed of praise is given to Gerota's method, in which absolute black, extractum alkannæ, and cinnabar in addition to Prussian blue are used. Enough has been said to show that this work on the lymphatics will prove useful to the anatomist, the physiologist, and the practitioner.

A Guide to the Housing Acts, with Appendices containing the Statutes affecting Housing 1882–1903, together with the Forms and Circulars of the Local Government Board. By ARTHUR P. POLEY of the Inner Temple and Midland Circuit, Barrister-at-Law. London: Eyre and Spottiswoode. 1903. Pp. 409. Price 3*s.* 6*d.*

LOCAL authorities in exercising the important and useful powers given to them by the Housing Acts find that the principal Act which they are charged to administer (the Housing of the Working Classes Act, 1890) has in the 13 years of its existence been supplemented by no less than six minor Acts, passed with a view to make clearer or to amend its provisions. Members of county and borough councils may, therefore, well require a handy volume containing not only the Acts in question but full explanations of their working. Mr. Poley's volume fulfils these conditions; it is of a size adapted to the pocket and it contains all that is necessary for those desiring to understand as far as possible the business details of the Acts as well as the general scope of their provisions. They are not statutes easy to master or to carry out and it is to be hoped that some day means may be found to render the procedure for the object in question more simple and more uniform. Mr. Poley calls attention to the fact that three schemes of compensation are provided under Parts I., II., and III. of the principal Act necessitating references to a special scheme for compensation under the schedule to the Act with reference to Part I., and references to other Acts of Parliament under Parts II. and III., with the additional complication of procedure that may be entailed by utilising Part III. in conjunction with Part I. or with Part II. There are differences also, to quote another instance of complication, between the schemes known as improvement schemes and those termed reconstruction schemes. The same authority carries out both in cities, including that of London, in boroughs and in urban districts, but not in the county of London, where the County Council undertakes the former and the borough councils are responsible for the latter. All these and many others are matters of which individual members of councils should have knowledge if they would take an active part in the improvement of the conditions of life among the poor and the working classes which Housing Acts are intended to promote. Apart from such interest as medical men may take in their local public affairs they are directly concerned in the Housing Acts where they are medical officers of health, and in London they may be specially appointed medical officers of health by the County Council for the purposes of the Housing Acts. In addition to this, when 12 or more ratepayers are dissatisfied with the attitude of a medical officer of health with reference to an area which they believe to be unhealthy, a medical practitioner may be called upon to inspect the area complained of and to report as to its condition in his opinion. In all circumstances in which medical men are required to act under an Act of Parliament it is useful, if not necessary, that they should fully inform themselves as to the powers thus vested in them, and with regard to the Housing Acts Mr. Poley's book seems to afford the requisite information within a convenient compass, together with such as may be required by surveyors, solicitors, and others.

Diseases of the Eye: a Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania. With 280 Illustrations and six Chromo-lithographic Plates. Fourth edition. London and Philadelphia: W. B. Saunders and Co. Large 8vo, pp. 773. Price 21*s.* net.

WE had occasion when reviewing the first edition of this work in 1892 to speak of it in favourable terms. The author holds responsible positions and has had large experience to guide him in his descriptions of disease and of the various modes of treatment tried by himself or suggested by others. That experience he has utilised in the successive editions of his treatise which have appeared and in its present state it may be regarded as containing in moderate compass all that the practitioner needs to know in this department of medicine. Like the majority of American works on ophthalmology the optical principles concerned in vision, the conditions of normal and abnormal refraction, and the disturbances of motility, as well as the operations on the eye and its appendages are treated with great fulness of detail, and the illustrations are not only very numerous but amongst the clearest and best that have been published. Many important additions have been made in the present edition, such as a description of Dr. W. Thomson's lantern test for colour blindness which should be employed by all those who have charge of the vision of railway servants, sailors, signalmen, and others; the ophthalmoscopic signs of general arterio-sclerosis; the significance of optic neuritis; the educative treatment of strabismus; and many others to which attention has been drawn of late years.

In discussing the propriety or wisdom of removing the lens in degrees of myopia amounting to 15 D. or more Professor de Schweinitz states that although his experience has been very limited it has been favourable to the performance of the

operation. The list of dangers which he appends is sufficiently formidable to prevent most men from undertaking the operation without much consideration and without strong motives such as the advance of the disease or great deterioration of vision, for it includes intraocular hæmorrhage, detachment of the retina, iritis, and infection of the corneal wound. The latter complication if due precaution is taken ought to be excluded; the others, however, are not only extremely dangerous but are only to a limited extent under the control of the operator. The rule here laid down for the ordering of glasses in myopia is that young people under 20 years of age with good vision and a moderate degree of myopia—that is to say, under 5 D.—should wear the *full* correction *constantly*, providing that the accommodation is ample and that no signs of fatigue are evident. A short chapter might with advantage have been added to this otherwise very excellent work on the medico-legal relations of the diseases and injuries of the eyes.

Studies in Comparative Odontology. By A. S. UNDERWOOD, M.R.C.S. Eng., L.D.S. London: Bailliere, Tindall, and Cox. 1903. Pp. 153. Illustrated. Price 5*s*.

THIS is an excellent little work and is full of interest from beginning to end. Mr. Underwood has the happy knack of being able to fix the attention of his readers and the evident enthusiasm of his style cannot fail to show students, who often regard odontology as useful only for examination purposes, that it may in reality be fascinating in a high degree. His main object has been to impart sound ideas as to the broad, underlying principles of the subject, leaving the student to fill in details from more comprehensive treatises, and he trusts, to use his own expression, that a new way of putting things and a new way of looking at them may lead to a better appreciation of those standard works. In clear, concise terms he has enunciated the general terms used in odontology, the methods by which teeth of complex type have been evolved from those of more simple pattern, and the different modes by which teeth are attached. In successive chapters the odontology of the different classes of the vertebrata is described. General characteristics are narrated, a description of each order is given, and typical examples are taken. Many problems perplexing to students are solved by the introduction of suitable diagrams, instances of which will be found in the description of the gymnodonts and the development and the mode of erection of the poison fang of viperine snakes. The concluding chapters of the book on the Effects of Environment upon Animals and the Chain of Life are clearly and simply written.

JOURNALS AND MAGAZINES.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S., D. J. CUNNINGHAM M.D., F.R.S., G. S. HUNTINGTON, M.D., A. MACALISTER, M.D., F.R.S., and J. G. M'KENDRICK, M.D., F.R.S. Vol. XXXVIII. Part 2, January, 1904. With Plates and Figures in the text. London: Charles Griffin. Price 6*s*.—The contents of this part are: 1. A Comparative Study of the Grey and White Matter, of the Motor cell Groups, and of the Spinal Accessory Nerve in the Spinal Cord of the Porpoise (*phocæna communis*), by David Hepburn, M.D. Edin., professor of anatomy, University College, Cardiff, and David Waterston, M.D. Edin., senior demonstrator and lecturer on regional anatomy, University of Edinburgh, with four plates. The authors of the article state that the maximum superficial area of a section of the cord of a porpoise was at the level of the seventh cervical vertebra; the next largest area was about the seventh lumbar enlargement. The areas of the columns of grey and white matter vary in their relative proportions in different regions and just as the posterior columns do not increase uniformly in size from below upwards so neither do the anterior and lateral columns diminish uniformly from above downwards. Many of the fibres in all the columns act as longitudinal commissural bands between different segments of the cord. The grey matter is arranged in two comma-shaped masses, united by a commissure. The illustrations show the form of, and the area occupied by, the grey matter at different levels. The article is a valuable contribution to our limited knowledge of Cetacean neurology. 2. Skulls from the Round Barrows of East Yorkshire, by William Wright, F.R.C.S. Eng., with a plate. The author gives a description and the measurements of 16 skulls. 3. The Varieties of the Os Calcis, by P. P. Laidlaw, B.A., Scholar of St. John's College, Cambridge, with five plates. 4. Further Observations on the Functions of the Spleen and other Hæmolymph Glands, by Thomas Lewis, with a plate. 5. A Note on an Exceptional Human Brain presenting a Pithecoid Abnormality of the Sylvian Region, by G. Elliot Smith, M.D. Sydney, professor of anatomy, Cairo. 6. A Note on the Communication between the Musculo-Spiral and Ulnar Nerves, by G. Elliot Smith, M.D. Sydney. 7. A Note on the Fossa Parieto-Occipitalis, by G. Elliot Smith, M.D. Sydney. 8. The Insertion of the Pyriformis and Obturator Internus and Formation of the Posterior Circular Capsular Fibres and Upper Retinaculum of Weitbrecht, by J. Ernest Frazer, F.R.C.S. Eng., with figures in the text. 9. An Abstract of Lectures on the Early Stages in the Development of Mammalian Ova and on the Formation of the Placenta in Different Groups of Mammals, by Arthur Robinson, M.D. Edin., with two plates. 10. The Germ Cells: Part I., continued, by John Beard, D.Sc. 11. The Proceedings of the Anatomical Society of Great Britain and Ireland.

Looking Back.

FROM

THE LANCET, *SATURDAY*, JAN. 21, 1826.

MEETING OF THE STUDENTS AT ST. BARTHOLOMEW'S HOSPITAL.[1]

A Meeting of the Students of this Hospital took place in the Anatomical Theatre, on Wednesday se'nnight, for the purpose of taking into consideration the propriety of requesting the surgeons to allow the name, age, disease, and principal treatment of every patient under their care, to be affixed to a convenient part of the bed. It is scarcely necessary to observe, the most intense interest was excited in consequence. Immediately after the afternoon lecture, Mr. Skey was called to the chair, when the following resolutions, addressed to the surgeons, (which had been previously drawn up by one of the students, Mr. Turley), were proposed and carried unanimously.

1st. That for the benefit of the students and the economy of your time, the name, age, disease, and treatment of each patient be posted on some conspicuous part of his bed.

2d. That all accidents admitted, be registered every day in a book kept for the purpose in each accident ward.

3d. That a notice of all operations to be performed should be pasted on the board in the Anatomical Theatre.

Here some desultory conversation arose previous to putting the fourth and last resolution, and which, indeed, was not embodied with the foregoing; it was as to the mode of conducting post-mortem examinations, and the shameful extortion of sixpence from every pupil entering the dead house.

[1] Only a portion of the account of the meeting has been transcribed.

THE LANCET.

LONDON: SATURDAY, JANUARY 23, 1904.

The Relations of the General Practitioner to the Consultant.

CONSULTANTS have their uses whether they practise as general physicians, as operating surgeons, or as specialists. The general consulting physician or surgeon almost invariably holds a post which entails upon him huge and varied experience. To the specialist it is given by special study of one branch, or segment of a branch, of medical science to gain more knowledge of that department of practice than is vouchsafed to the average medical practitioner. Those members of the profession who are in general practice have to treat patients suffering from ailments belonging to medicine, surgery, and gynæcology, and the very fact that their knowledge has to be so wide prevents its reaching so great a depth in particular directions as is attainable by those who see disease marshalled before them in the wards of great hospitals, or who study one small portion of the vast field of medical knowledge under exceptionally favourable circumstances. As a means of advancing the science of medicine and of affording assistance in diagnosis and treatment in cases of special difficulty the consultant is of inestimable value. But the general practitioner is the backbone of the profession as we have always maintained. To vary the metaphor, the consultants may be looked upon as the vanguard of the advancing hosts of medicine, whilst the general practitioners compose the main body on whom devolves the greatest share of the fighting. By itself the vanguard could not hold its own; unsupported by the vast army of those in general practice it could not stand. This support of the consultant by the general practitioner has always been recognised by the leaders of the profession. In the first number of THE LANCET, published now more than 80 years ago, we reported Sir ASTLEY COOPER'S acknowledgment that it was to the general practitioners with whom he was acquainted that he owed his position more than to any merit of his own. Without attaching too much importance to Sir ASTLEY COOPER'S disclaimer of merit we may accept the general statement of his indebtedness to those in general practice, adding that the real heads of the medical profession at the present day in most instances hold their position on the same ground. The consultant is, on his side, of value to the general practitioner. In a difficult case—difficult either in diagnosis or in treatment—what can be more helpful than the opinion of one who has devoted special attention to the subject or who is known to enjoy great opportunities of experience? Even if the verdict be that nothing can be done—that the resources of science are exhausted—there is a consolation both to the friends of the patient and to his medical attendant that they have had the opinion of one well qualified to judge.

Disputes, or rather causes of friction, frequently arise between consultants and general practitioners, and when they do the reason is either that the report given to the general practitioner by the patient as to the opinion of the consultant is incorrect, or that the general practitioner thinks that the consultant has tried to oust him from medical attendance. With the best will in the world to describe what has taken place and what has been said, the patient may misrepresent what has occurred. Therefore it is well for the consultant never to send verbal messages by the patient if it can be avoided. If any message must be sent by the patient it should be couched in the simplest words and phrases. All important communications should be in writing and then there can be no possible ground for misunderstanding. The practitioner is entitled to a full account of the consultant's opinion. The consultant should be especially careful in what he says to the patient of the treatment pursued by the medical man who has already been in attendance. To find fault with what has been done is in the highest degree reprehensible, for the general practitioner is in consultation with the specialist, even though he may not be present in person. It is not only undesirable for the patient's sake to shake his faith in his medical attendant, but it is unfair, and even dangerous, to do so without hearing what the medical attendant may have to say. The harm that may be done in this way is incalculable. The other great cause of friction between the consultant and the general practitioner is the belief that more than occasionally the former takes possession of the patient of the latter. We trust that this is rare in reality, but we fancy that there is a widespread belief among general practitioners that some consultants habitually act thus, although attempts to obtain public support in such a base manner must ultimately defeat themselves with ignominy. We have been led to make these observations by the letter and inclosure which will be found on p. 254). This communication may be summarised as follows. A general practitioner living a few miles from London had a patient suffering from a prostatic calculus. There were no urgent symptoms and therefore an attempt was made to lessen the size of the stone by internal medication, so that it might come away per urethram. (This was perfectly legitimate treatment, though, of course, not to be persisted in after a reasonable time.) The attempt to diminish the size of the stone did not appear to be successful and the advice of a consultant was sought, the general practitioner making the appointment and supplying the consultant with a full history of the case. The patient went to London, interviewed the consultant, and the diagnosis was confirmed. But according to the patient's statement the consultant pointed out the great danger of delay, saying that the general practitioner had acted wrongly in treating it medically, and urging immediate operation. The patient arranged to enter a public hospital to which the consultant was attached on the following day. Now comes the most surprising portion of the allegation. The patient was made to promise to send a fee of 20 guineas for the operation to the consultant that same night, although he was to be an inmate of a public hospital, and of this monetary transaction no one was to be told. No letter was written to the general practitioner and the only message was that

the consultant was too busy to write but that a large stone was present "which should not have been left so long." The patient went home; on his way he called on his medical man and faithfully delivered the consultant's message. The same night he sent off the 20 guineas. So far, of course, we have only an *ex parte* statement and one made by a man who takes no pains to conceal that he considers himself aggrieved. But something depends on the accuracy of the patient's memory who may have misunderstood the consultant. Two facts, however, seem to be clear: one is that the patient was told that there was a large stone present which should have been removed before. This was utterly unfair to the general practitioner; such extreme urgency is not present in a case of prostatic calculus unless it is definitely causing retention of urine and no such symptom was present. The other fact, a highly disagreeable one, is the demanding of the 20 guineas to be sent by post the same night. It does not seem possible that there can be any mistake in this matter, for the money was sent. We do not quite understand how the consultant could demand a fee for an operation to be performed in a public hospital, but possibly it may be permitted in the hospital to which he is attached. If it is permitted the sooner the rule is altered the better for the institution. Here we have the two causes which we have mentioned as originating frequent disputes between consultants and general practitioners. The consultant is alleged to have criticised adversely the general practitioner's treatment to the patient, and appears to have attempted to annex the case.

Now comes the poetic justice. In the early morning following the journey to London the patient was seized with retention of urine, his own medical man was sent for, and before he arrived the stone was passed. Possibly the consultant's examination had slightly displaced it; perhaps the double railway journey had assisted to this fortunate issue. The eroded surface of the stone showed the solvent action of the treatment already employed, and thus the internal medication must be credited with assisting in the happy issue of the case; but whatever may have been the cause the fact remains that the *fons et origo mali* has been expelled. And just about the time of the delivery of the calculus the London consultant is receiving the cheque. The mind of the patient thinks with natural regret of the money sent in vain. Not a syllable of the pecuniary transaction has he yet breathed to anyone but his heart misgives him and he confesses to his medical man what he has done. Fortunately, the cheque is returned on application but the careful consultant sends with it the advice that should any hæmaturia or difficulty of micturition at any time occur the patient should return to town at once. The general practitioner who had applied to the consultant for advice has to content himself with the meagre but eloquent message brought to him by the patient, amounting to an accusation that he had misjudged the case. Not a single written line does he ever receive from the consultant. Even after allowing for some errors in the patient's statement sufficient evidence remains to show that the general practitiorer has been gravely wronged. In no point, in our opinion, did the consultant act correctly towards the medical man who had applied to him for an opinion. It may reasonably be asked, What should a consultant do when he finds that the general practitioner has made a mistake in diagnosis or treatment? The decision is clear. The consultant is asked to suggest the treatment to be pursued; he has to deal not with the past but with the future, and he is not justified in making unfavourable comments to the patient on the conduct of the general practitioner who has called him in consultation. He may say what he likes to the general practitioner, but there should be no antagonism between general practitioners and consultants, for they are necessary to each other. The family adviser has facilities for observing a patient which are denied to the consultant; he "knows his patient's constitution," as the phrase goes, and there is an important truth in this; he knows which organs are specially prone to be affected; he knows his patient's idiosyncrasies as to diet and drugs, and as years go by we are learning to appraise this knowledge more highly than formerly. That general practitioner is wisest who recognises when he needs a further opinion; that consultant is wisest, even as worldly matters go, who recognises that the patients sent to him are not his patients unless they are specially given over into his care and who deals with those who send him patients as he would wish to be dealt with were the positions reversed. Such mutual trust will not merely be best both for the consultant and the general practitioner but will also be for the best interests of the patient who commits his health and life to their care.

Sight Testing by Opticians.

WE have had occasion at various times during the last two or three years to refer to the endeavours of a certain section of the spectacle trade to set up a new form of quackery in relation to the prescribing of glasses, and to assume to themselves a position which nothing short of a complete medical and surgical education could by any possibility justify. We have not hesitated to condemn these endeavours in the plainest terms; and our views concerning them have been confirmed by the authority of the President of the Royal College of Surgeons of England in the address which he lately delivered as President of the Ophthalmological Society. We have therefore the more pleasure in calling attention to a letter which has been sent to the leading journals of the optical trade by Mr. W. A. DIXEY, a well-known spectacle-maker and optician. In this letter, from the point of view of the interests of the trade itself, he strongly enforces the arguments which, in the interests of the public, we have found it necessary to employ. The letter has been called forth by a proposal to add the subject of "sight testing" to the examinations for opticians held by the Spectacle Makers Company, and by the circumstance that the court of the Company has appointed a committee to inquire into, and to advise upon, the question. Mr. DIXEY is strongly opposed to the suggested course and he rests his opposition upon three principal grounds. The first is that medical knowledge and training are necessary for proper sight testing and that outside the medical schools no facilities exist for their acquirement. The second is that the "convention" of the consulting room is better suited to sight

testing than is that of the shop and that the addition of a sight-testing qualification to the certificate of the Company would therefore be undesirable. The third is that such an examination would be against the best interests of the trade, and would tend to divert the energy of optical students from the practical side of their work and to endanger the usefulness of the present examinations. These reasons, so far as the medical profession is concerned, remind us of those which were once produced to the Lord Chamberlain by a deputation from the mayor and corporation of a country town who desired to anticipate a possible charge of disloyalty for not having caused the parish bells to be rung upon the King's birthday. The deputation assured his lordship that they had twelve sound and sufficient reasons for the course which had been pursued and the first of them was that there were no bells in the parish. The second—but here the Lord Chamberlain interrupted them, declaring that the first alone would abundantly satisfy His Majesty and that he would not trouble them to proceed further with their discourse. We have every desire for the prosperity of the spectacle trade so long as the proceedings of its members are confined within proper limits, and we are convinced that Mr. DIXEY is an excellent judge of the means by which that prosperity may most effectually be promoted. We are therefore quite prepared to agree with the whole substance of his contention; but his first argument is that upon which we rely. We have no doubt that his experience has brought under his notice a good many cases in which serious harm has followed from the use of spectacles prescribed by persons who had not received "medical knowledge and training" and we heartily congratulate him upon the courage and wisdom which his letter has displayed. It is so much more easy for any man in an assured position to go with the stream than to oppose himself to ignorant agitation, that a conspicuous instance of the latter course ought not to pass unnoticed by those who are competent to estimate it rightly. We sincerely hope that the court of the Company will be convinced by Mr. DIXEY'S arguments, and that a very mischievous proposal may be rejected by a sufficient majority to prevent its early reappearance. If the Company will use its influence to restore and to improve the manufacture of spectacles in the United Kingdom, it will be likely to accomplish far more for the encouragement of the trade than can ever be done by encroachments upon the province of the medical practitioner.

Sleeping Sickness.

IN an annotation in THE LANCET of Sept. 12th, 1903, p. 769, we referred to the Progress Report issued by the commission which was despatched to Uganda by the Royal Society to investigate the cause and modes of conveyance of sleeping sickness. Most valuable work has been accomplished by the members of that commission and their predecessors, and in our issue of Dec. 19th, p. 1730, we printed a *résumé* of a "Further Report on Sleeping Sickness in Uganda" which has recently been published. Unfortunately, some correspondence has appeared in the *Times* with regard to priority in the discovery of the cause of sleeping sickness. Doubtless honour should be given to whom honour is due and in the present instance praise should be accorded to all those who, heedless of danger, have given assistance in arriving at the results which have already been attained. In 1902 Dr. A. CASTELLANI discovered a bacterial parasite—a streptococcus—in cases of sleeping sickness and after painstaking investigations stated as his opinion that this organism was the cause of sleeping sickness. He subsequently found a trypanosome in a case of sleeping sickness but did not then attribute any causal relationship between that organism and the disease. On the arrival of Colonel D. BRUCE, R.A.M.C., F.R.S., in March of last year, Dr. CASTELLANI still maintained his streptococcus theory, but after mentioning to Colonel BRUCE that he had found trypanosomes in five cases of the disease the former urged him to make further investigations, with the result that he found the organisms in 70 per cent. of the cases examined. This naturally led to a reconsideration of his streptococcus theory and he then suggested that sleeping sickness is due to a species of trypanosomes and that at least in the last stages there is a concomitant streptococcus infection which plays a certain part in the course of the disease. To Dr. CASTELLANI must be given the credit of being the first to demonstrate the presence of the trypanosomes in cases of sleeping sickness and also of introducing the method of centrifuging the cerebro-spinal fluid in his search for the streptococcus. Colonel BRUCE, on the other hand, originated the theory that the trypanosomes might cause the disease. We trust therefore that there will not be any further controversy as to priority and that to all concerned in this most important inquiry will be accorded the thanks which they deserve.

The discovery of trypanosomes in the blood of human beings had been previously made by Dr. J. E. DUTTON in 1901, and in a recent issue[1] we published a brief review of the "First Report of the Trypanosomiasis Expedition to Senegambia (1902) of the Liverpool School of Tropical Medicine and Medical Parasitology." This has been compiled by Dr. DUTTON and Dr. J. L. TODD, who were sent to Senegambia to make certain investigations. They only found six cases of trypanosomiasis in the natives but state their reasons for considering that the percentage of infection given by these figures is smaller than is actually the case. From the clinical description given of the cases lethargy is not a prominent symptom. The observations of Colonel BRUCE and his colleagues prove definitely, however, that trypanosomes are always present in the cerebro-spinal fluid of patients suffering from sleeping sickness and that there is also strong ground for believing that there is a close connexion between the so-called "trypanosoma fever" and sleeping sickness. They also show that the disease can apparently be transferred from human beings to monkeys by means of inoculation. It was further shown that the distribution of sleeping sickness coincides with the distribution of a biting insect—a tsetse fly, the glossina palpalis. This most important fact at once suggested that the disease was communicated by means of this fly and corroborative evidence was adduced by means of allowing flies confined in a cage to feed on patients suffering from sleeping sickness and at varying intervals to place the same cage of flies on monkeys. Positive results were

[1] THE LANCET, Dec. 19th, 1903, p. 1727.

obtained. Tsetse flies were then freshly caught and placed at once on healthy monkeys; the results were again positive.

From the above facts there is strong reason to suppose that sleeping sickness is a disease transferred from man to man by means of the tsetse fly, but according to remarks made at recent meetings of the Epidemiological Society on Dec. 11th and Jan. 15th[2] it is evident that absolute scientific proof is still wanting. The general tone adopted by the speakers was certainly in favour of the correctness of the theory just enunciated. Dr. L. W. SAMBON drew attention to the significant fact that the flies freshly caught conveyed the disease to monkeys in two or three weeks, whilst in the case of those which had previously fed on patients the symptoms did not appear for about eight weeks, thus suggesting that the flies were more active in directly conveying the disease than in transferring it from man to man. Dr. D. NABARRO, in a most interesting speech, explained this difficulty by detailing the manner in which the experiments were carried out. The fresh flies were brought into the camp during the day, kept over night, and then put on a monkey. Being hungry all the flies fed well and thus the animal was placed in a favourable condition for infection and the organisms speedily appeared in the blood. In the other series of cases in which flies were first fed on patients suffering from sleeping sickness and then on monkeys, the animals were not so strongly exposed to infection, since the flies did not feed so well or so numerously as the patients frequently removed the flies before a full meal had been taken. Sir PATRICK MANSON, whilst believing that the cause of sleeping sickness had been discovered, nevertheless maintained that the scientific chain of evidence would not be complete until pure cultures of the organisms had been obtained and further tests had been made with those cultures. In support of this suggestion he stated that the experiments of injecting blood or cerebro-spinal fluid of patients infected with sleeping sickness and subsequently inducing the disease in the monkey were not conclusive in establishing an etiological relationship between the trypanosomes and sleeping sickness, since some other organism might have been simultaneously injected. Dr. F. W. MOTT, from his own experiments, laid more stress on the streptococcus infection which Dr. CASTELLANI was the first to demonstrate. During the discussion a case was frequently mentioned which Sir PATRICK MANSON had observed in this country (the patient having previously been in infected districts) and which had proved fatal. Dr. MOTT had isolated a diplococcus from the enlarged glands and in his opinion the diplococcus infection had precipitated the onset of the symptoms. To sum up the results of this discussion we may repeat that although the general tone indicated a belief that the trypanosomes were the cause of sleeping sickness yet there was a strong feeling that further scientific investigation was required before the etiology could be considered as entirely settled. In this view we concur.

In conclusion we desire to draw attention to the discrepancy between the terminology which appears in the printed version of the report presented to the Royal Society by its commissioners and that adopted at the discussion at the Epidemiological Society. In the former we find the parasite called "trypanosome," with the plural term "trypanosomes," whilst the speakers at the latter society adopted the terms "trypanosoma" and "trypanosomata." It would be well, we think, if some decision were come to whereby uniformity might be preserved.

[2] For reports of these meetings see THE LANCET, Dec. 19th, 1903, p. 1721, and p. 228 of our present issue.

The Medical Profession and the Dispensing of Medicines.

WHATEVER opinion may be formed upon the broad lines of the Draft Medical Act Amendment Bill which has been prepared by the medico-political committee of the British Medical Association, we believe that the new clauses, which are to be considered at a general meeting of the Metropolitan Counties Branch, will scarcely be received with enthusiasm by many country practitioners. The Bill, the general scope of which is familiar to many of our readers, proposes a reconstitution of the General Medical Council, with a very great reduction in the numbers of members nominated by the different examining bodies and with a great increase in the numbers of Direct Representatives to be elected by the registered medical practitioners resident in various parts of the United Kingdom. It is proposed that the Direct Representatives and the nominated members of the Council should be numerically equal and that in addition there should be five Crown nominees, three for England, one for Scotland, and one for Ireland. To this composite body are to be intrusted the registration of students and of practitioners and penal powers analogous to those at present possessed by the General Medical Council. But the new General Medical Council is, according to the Bill, also to have the power to appoint assistant examiners for the various intermediate examinations, inspectors to visit medical schools or hospitals who are to report upon their suitability for affording adequate instruction, and the privilege of itself appointing boards of examiners in medicine, surgery, and midwifery to conduct a State examination qualifying for registration in these subjects. This examination, it is proposed, should be held simultaneously in London, Edinburgh, Dublin, and at such centres of medical education as the Council may from time to time determine and is apparently intended to be the sole qualification for registration. The fee for initial registration is to be only £1, but a further annual payment of £1 will be required for the privilege of being entered on the Register each ensuing year. It will thus be seen that the Bill proposes large measures of medical reform. The existing poverty of the General Medical Council is to be removed by the creation of an annual income, while its position as the central authority in medical education is to be confirmed; and the much wanted one-portal system is to be introduced.

Much could and will be written on this Bill, but at the present moment we propose only to notice certain new clauses which are to be discussed at the meeting of the Metropolitan Counties Branch of the British Medical Association. Both clauses deal with questions that concern the medical profession as a whole, while to one of them our attention is drawn pointedly by a correspondent. The first

clause appears to be dictated by the desire to show that practitioners will obtain something for their money besides the insertion of a line in the Register. It is as follows:—

"Any person registered under this Act shall, by right alone of such registration, be eligible to all appointments in the United Kingdom, which may be held by a legally qualified medical practitioner."

But this really promises nothing, since those who elect will surely cling to the tradition of appointing the man who appears to be best qualified. The clause is redundant, since no one is a legally qualified medical practitioner unless registered, and no one, if this Bill passes, can in the future be registered without passing this State examination in medicine, surgery, and midwifery. A second clause is more impracticable, though on a first reading its intention to raise the tone and status of the medical profession may disarm criticism. It is:—

"No person registered under this Act, excepting only as hereinafter indicated, shall dispense or supply drugs or other medicaments to anyone."

Before considering the exceptions we would plead for a little greater precision of the terms employed. If such an enactment had been in force when KOCH'S tuberculin was first introduced into this country would a practitioner have been breaking the law when daily employing the "drug or other medicament"? If in the future some similar treatment is suggested for disease where there is no question of emergency would penalties be incurred under this clause? It may be assumed that in the desire to check the practice of dispensing by medical men these contingencies have not occurred to the author of this clause. The list of medical men to whom the operations of the clause are not to apply, and who will therefore escape the risk of a suggested penalty of £100, is sufficiently curious:—

"1. Medical officers of H.M.'s navy or army not engaged in private practice. 2. Registered practitioners while in attendance on cases of emergency requiring in the opinion of the practitioner the immediate use of a drug or other medicament. 3. Registered persons practising their profession in country districts in which the inhabitants are so few that they cannot support at the same time both a medical practitioner and a pharmaceutical chemist."

How is the medical man to ascertain the supporting power of his district except by bitter experience? It almost suggests a melancholy picture of the survival of the fittest, and yet the author goes on relentlessly:—

"It shall nevertheless be incumbent upon any medical practitioner so practising in such a country district to satisfy the General Medical Council, when called upon by that body so to do, that the people of the country district in which the practitioner is engaged in medical practice and in the dispensing of drugs or of other medicaments are, in fact, too few in numbers to support both a medical practitioner and a pharmaceutical chemist."

This would surely entail an amount of vexation sufficient to deter many from venturing into country practice and it would involve lengthy sittings of the General Medical Council in search of information as to the population and wealth of rural districts. We cannot conceive the General Medical Council turning itself into a kind of tariff commission. The last two exceptions are:—

"4. Medical practitioners employed on board of vessels other than H.M.'s ships. 5. Any other person registered under this Act, the peculiar circumstances of whose professional work require in the opinion of the General Council, before which the facts must be brought, special consideration with a view to the exemption of such person from the action of this clause."

In other words, with authoritative permission, and after due inquiry, this clause may be set aside with all its terrors of a fine of "not less than One Hundred Pounds" and the threat of removal from the Medical Register.

That such proposals should be gravely put forward for discussion appears to argue great lack of appreciation of the conditions of practice not only in country districts but also in the poorer quarters of our large towns. While the clause appears to be directed solely towards the extinction of the dispensing medical man, it would operate by fostering the growth of the prescribing druggist. The proposals of the Draft Medical Act Amendment Bill are sufficiently striking and revolutionary without these two suggested clauses. Should the clauses be carried by the Metropolitan Counties Branch there can be no doubt that they will rouse a critical interest in the Bill which may check the further action of those who desire the one-portal system and increased direct representation.

Annotations.

"Ne quid nimis."

THE PUBLIC SCHOOLS SCIENCE MASTERS' ASSOCIATION.

THE annual meeting of this association was held on Jan. 16th at Westminster School, where accommodation had been provided by Dr. Gow. Professor W. A. Tilden, F.R.S., president of the association, was in the chair and after referring to the influence which the association had exercised during the past year he went on to say how necessary it was to cultivate the power of seeing. The best instrument for opening the eyes of children was some form or other of natural science. There were other aspects of the question and he was reminded of what was at the present time going on in the University of London. In the medical faculty of that University there was a great struggle going on in regard to the position of chemistry as a subject which was necessary to the education of the medical student. Without going into details an attempt was being made to stifle a large part of the chemistry and to thrust it out of the curriculum. A discussion then arose following a paper read by Mr. R. E. Thwaites (Malvern) upon the possibility of fusing the mathematical and science teaching of public schools. Mr. O. H. Latter (Charterhouse) read a paper upon Nature Study and finally made the following motion:—

That the committee be instructed to appoint a subcommittee to communicate with the Preparatory Schools Association with a view of determining the form of science teaching best suited to preparatory schools.

This was seconded by Mr. D. Rintoul and carried unanimously. It does not appear from the report with which we have been furnished that any discussion took place as to the chairman's remarks upon what he described as the great struggle with regard to chemistry in the faculty of medicine of the University of London. The majority of his hearers being teachers of pure science would probably have sympathised with his protest against the stifling of a great part of the chemistry of the medical curriculum. But those responsible for the recent changes to which apparently the President of the Public Schools Science Masters' Association

objects have insisted that the new regulations do not materially lessen the amount of chemistry learnt by a medical student but provide that it shall be studied more closely in association with the subjects of physiology and pathology. There is a great deal to be said in favour of utilising the study of pure science as a means of preventing the faculty of observation inherent in all children from being crushed out in our preparatory and public schools. Should the efforts of Professor Tilden's association be crowned with success and science be satisfactorily taught to schoolboys intending students of medicine will be amongst those who will profit most from the reform. In the medical curriculum, however, pure science must take a subsidiary position and must be taught in direct relation to strictly professional subjects. Medical students can certainly do with less pure chemistry than has in the past been required from candidates for the medical degrees of the University of London.

THE CERTIFICATION OF LUNATICS.

MEDICAL men are, if we may judge from letters which reach us, often at a loss as to the proper method of dealing with cases of lunacy which occur in their practice. Text-books on insanity do not assist them to any great extent since questions of procedure are usually dealt with by quoting the words of the Lunacy Act, 1890, and the practitioner's difficulty lies not so much in ignorance of the statute as in a quite excusable failure to understand it. The condition which perhaps most frequently gives rise to trouble is that in which on account of mental defect a person becomes unable to pursue his occupation and so to maintain himself and those dependent upon him. Such a person may be a working man who is being attended by his own medical adviser and who has had up to the time of his mental breakdown no relations with the Poor-law except as a contributor to the rates. He is not, therefore, a pauper within the definition of the Lunacy Act as formally given in Section 341, although as a consequence of his incapacity he must become so. In a case of this kind there are several ways of gaining the desired end, that of removal to an asylum, which fall into two groups according as the medical man acts on his own responsibility or communicates with the relieving officer of the district. If the former course is taken the medical man, who is, we are assuming, not a medical officer to a board of guardians, may call the attention of the Commissioners in Lunacy to the case and leave them to act under Section 23. Instead of this he may give information on oath to a "judicial authority" under the Act who will then proceed under Section 13 (2). There is a third method which we mention simply because it has been employed, though its impropriety in the majority of cases is sufficiently obvious. It consists in thrusting the insane person out into the street in order that he may be apprehended by a constable or relieving officer as a lunatic wandering at large under Section 15. If the matter is brought to the notice of the relieving officer that officer may proceed under Section 13 (1), 14 (2), or 20. A consideration here of the proper section to adopt would involve a discussion of sundry subtle points which would expand this note to unwieldy dimensions. We are concerned at the moment merely with the position of the patient's own medical man out of whose hands the management of the case henceforth passes. Whether one medical certificate or two be required he cannot compel the relieving officer to accept one from him. The selection of the certifying medical practitioner is entirely at the discretion of the justice and unless it can be brought to his notice that someone else is especially qualified he will, as a rule, employ the medical officer of the Poor-law institution to which the patient is to be removed. It is often stated by relieving officers that the workhouse medical officer has a "contract" with the guardians to certify pauper lunatics Guardians, however, have no power to enter into such a contract for the simple reason that the carrying of it out rests with a justice over whom they have no control. On the other hand, it must be noticed that the medical officer of the workhouse is morally entitled to the fee for certifying, since in taking office he has been led to suppose that the justice will not make any departure from the customary procedure without good reason. Any medical man whose patient becomes insane when such patient cannot be dealt with on petition had better reconcile himself to the prospect of getting no further fees from that source.

CENTENARY OF THE ROYAL LONDON OPHTHALMIC HOSPITAL.

"THE light of the body is the eye" is a truth as profound in its physiological significance as in its spiritual interpretation, and whether looked upon as an organ of bodily or intellectual needs or as an index of disease the importance of the eye cannot be overestimated. In the investigations with which ophthalmology is concerned few institutions can take a prior place to that of the Royal Ophthalmic Hospital of London which was founded just 100 years ago and it is impossible to estimate the amount of good which mankind has received from its ministrations. The story of its foundation is an interesting one, for it owes its origin to the sympathies which were aroused in some gentlemen by the terrible sufferings of the men in the navy and army during the early part of the last century who belonged to the force in the Egyptian campaign under Sir Ralph Abercromby. Many of the earliest patients of this hospital were soldiers and sailors invalided home. In this campaign ophthalmia produced great ravages, for out of a regiment of 700 men there were 636 cases of whom 40 became permanently blind in one eye and 50 blind in both. In contrast to this state of affairs we may mention that in the Egyptian campaign of 1882, in consequence of the precautions then taken, though there were 1800 severe cases of ophthalmia after the battle of Tel-el-Kebir not one man lost his sight. Some idea of the amount of suffering relieved by this hospital may be gathered from the statistics for the past year. The number of in-patients relieved was 2122, while the number of new out-patients amounted to 37,987. The total attendances of out-patients were no less than 119,873. Our readers will remember that the original ophthalmic hospital was removed from Charterhouse-square to Moorfields in 1821. This building having been found quite inadequate and unsuitable from sanitary reasons for the work of the institution a new hospital was built in the City-road, London, E.C., the foundation-stone of which was laid by the then Prince of Wales in 1897, the year of the Diamond Jubilee of the late Queen, when he was accompanied by her present Majesty and their daughter Princess Victoria. The ground rent of this new site is £1210 a year and the rates amount to nearly £1000 a year. The latter item has been an incubus upon the management of the hospital since it was opened in 1899. The rates paid for the Moorfields buildings to the City of London were about £55 a year and it is not to the credit of the borough of Finsbury that it insists upon taking from a charity the pecuniary needs of which are great and which renders an incalculable benefit to the many workers in that borough the monstrous sum of £1000 a year. Is it surprising that the hospital should be in debt? One item alone, the liability to tradesmen, amounts to over £3000. To meet these heavy demands, and, indeed, to carry on the work of the hospital, the committee was compelled to negotiate a loan of £5000 from the Charity Commissioners by hypothecating a portion of the only endowment of the hospital (a sum of £20,000 then invested in Consols), thus losing the annual interest on that portion of the investment.

But even with this assistance and the most careful economy on the part of the committee the past year began with a deficit of £5463, which it is feared will show a considerable increase when the accounts are closed. As we have already said it is impossible to estimate the amount of good this hospital does for mankind. It is not only the poor who come from all parts of the United Kingdom and even from the colonies (sometimes as many as 550 are relieved in one morning) who benefit, but the institution forms a school of ophthalmic science and surgery to which medical practitioners from all parts of the empire come to study. And there is probably not one ophthalmic surgeon of eminence in the United Kingdom or the colonies who has not studied there. The whole empire therefore is indebted to this institution and in common justice the whole empire should contribute towards its support. The King's Hospital Fund for London in its annual report for 1903, referring to the Royal London Ophthalmic Hospital, justly said, "this hospital should receive more support from the public," and this is abundantly clear to anyone who takes the trouble to read the annual reports of the hospital. The annual subscriptions and donations must be increased to £6000 a year if the institution is still to carry on its good work, and in addition to this the sum of £50,000 is required for the rent fund investment the interest of which will pay the rent of the hospital, and £4500 for repayment of the balance of the loan from the Charity Commissioners. Subscriptions should be sent to the secretary, Royal London Ophthalmic Hospital, City-road, E.C.

"THE REVELATIONS OF RADIUM."

A VERY interesting lecture under the above title was given by Dr. George B. Batten at a meeting of the Roentgen Society held on Jan. 7th. Dr. Batten commenced by giving a short sketch of the theories of matter that had been held since Newton postulated his projectile theory of light in 1668. Then came Franklin's imponderable fluid theory of electricity in 1746 and next Dalton's atomic theory of matter in 1803. Throughout the nineteenth century the undulatory theory of light and heat associated with the atomic theory of matter was almost universally held. Passing over Clerk Maxwell's view that electricity, light, and heat were identical, Hertz's remarkable experiments in support of this view were mentioned. Hertz demonstrated in 1888 that radiant electricity consisted of large waves in the ether. Next came the announcement of Professor Bose that he had been able to detect electrical waves as small as three millimetres in size. This was followed by Professor Langley announcing the existence of heat rays as large as 70 micro-millimetres, leaving only a gap of about seven octaves in the scale of radiant energy. This gap is now partially filled, it would seem, by M. Blondlot's and Professor Charpentier's "n" rays. In this scale the ordinary red heat rays and all the light rays are in the forty-ninth octave and up to the fifty-first octave chemical or actinic and ultra-violet rays are known to occur. In 1895 Roentgen discovered the x rays which by some are thought to have still smaller wave lengths. Then Sir William Crookes announced the existence of a fourth state of matter and showed that in the vacuum tube the current is carried by material particles of matter in a much smaller state of subdivision than ordinary atoms—"corpuscles, in fact," which form the cathode stream. In still higher vacua the electric current ceases to pass at all, an observation which suggested a difficulty as to accepting the ordinary undulatory ether theory of electricity and light. Possibly the phenomena of radio-activity may help us towards a solution. Becquerel, in 1896, found that the metal uranium has the faculty of spontaneously emitting rays closely analogous to cathode and to Roentgen rays, and Schmidt in 1898 showed that thorium would do the same thing. In the same year M. and Madame Curie succeeded in isolating one decigramme of pure radium from a ton of pitchblende and found that all the radio-active properties of uranium and thorium were intensified in radium at least 500,000 times. On March 16th, 1903, M. Curie announced that pure radium chloride is self-heating. The theory in regard to radio-activity is now commonly held to be atomic disintegration and scientific men now speak of elemental decomposition, the pulverisation of atoms into electrons and the reduction of matter into its fourth state. What is undeniable, said Dr. Batten, is that the Daltonian atom has in the century of its acceptance as a fundamental reality suffered destruction. Each of those supposed "ultimates," he added, is now known to be the scene of indescribable activities, a complex piece of mechanism composed of thousands of parts, a star-cluster in miniature subject to all kinds of dynamical vicissitudes, to perturbations, accelerations, internal friction, total or partial disruption. To sum up, the revelations of radium seem to support the corpuscular electron theories of matter and electricity. They open up quite a vista into a new and immense storehouse of energy in the universe, the intra-atomic storehouse beside which the ordinarily available inter-atomic and inter-molecular forces pale into insignificance, if only we can learn to tap that wonderful new source, and this, Dr. Batten confessed, "is the most exciting thing about radium and its congeners."

DESQUAMATION OF THE SKIN IN TYPHOID FEVER.

THOUGH desquamation of the skin in typhoid fever was long ago described by the great French clinician Louis it is either unnoticed or little more than mentioned by most writers. Dreschfeld in Allbutt's "System" says that desquamation of fine branny scales is often observed towards the end of the fever or during convalescence. Osler in the last edition of his book states that branny desquamation is not rare in children and that occasionally the skin peels off in large flakes. The *American Journal of the Medical Sciences* for January contains an important paper by Dr. David Riesman, in which he relates two cases and reviews the literature of the subject. The following is one of his cases. A man was admitted to hospital on Jan. 23rd, 1902, with the eruption of typhoid fever. The attack was severe. The rash became widespread, spots appearing on the face, arms, thighs, and legs. The temperature became normal on Feb. 12th, probably at the end of the fourth week. On March 3rd there was a severe chill, the temperature rose to 106° F., and there was pain in the right side. Pleural effusion followed and aspiration was performed. Early in April the patient left hospital in fair health. Desquamation began during convalescence (date not given). It was widespread and some of the scales were fully a quarter of an inch long. On the chest and abdomen it was most noticeable but it was little less marked on the limbs. It was distinct on the face and neck. On the arms and legs it was in the form of circular bands from one-eighth to one-quarter of an inch thick with intervals of apparently normal skin of the same width. The scalp, shoulders, palms, and soles were not affected. Dr. Riesman concludes that three forms of desquamation in typhoid fever may be distinguished. 1. That confined to the roseolar spots. Sometimes each spot has a tiny vesicle on its summit which forms a thin scale. 2. That appearing as a sequel to sudamina. This form is confined to the area of the sudaminal eruption, though Louis states that the intervening skin may be readily peeled off. The desquamation is usually furfuraceous but is sometimes scaly. It occurs upon the trunk and proximal part of the limbs, never upon the distal

parts or upon the face. 3. As illustrated by the case related, there may be almost universal desquamation, furfuraceous or lamellar, which is probably a trophic change analogous to shedding of the hair. It affects the trunk and proximal parts of the limbs, rarely the distal parts and face. Usually the extent and intensity of the desquamation are related to the severity of the fever.

THE DANGERS OF THE OVERHEAD WIRE.

MORE than one accident has been reported this week arising from the breaking of the overhead wire of an electric tram system. We believe that, as a rule, the cable of the overhead system is constructed with care and with all regard to the unpleasant possibilities of a wire snapping. Last week at Brentford one of these wires fell and killed two horses, and although it is true that horses are more susceptible to the electric potentiality than are human beings, yet in similar circumstances pedestrians might meet with an alarming experience. It is urged that there is no danger to the travellers on the top of these cars because the wood of the roof of the tramcar is practically a non-conductor. We imagine that few people will receive this assurance with complacency. Non-conductors and insulators have an unpleasant habit of becoming conductors, perhaps because they are wet or dirty. It seems to us that in the case of overhead systems there should be some means of turning off the current at certain points along the line in view of such occurrences as these so that no time may be lost in intimating the breakdown to the central station. The same plan might be adopted with advantage, as the fire in Piccadilly last week has clearly shown, in regard to gas mains. There should be means of turning off electricity and gas at intervals along these systems as is the case with the water-supply.

THE CEREBRAL FORM OF AMYOTROPHIC LATERAL SCLEROSIS.

AMYOTROPHIC lateral sclerosis is a rare organic disease of the nervous system affecting extensively both the cerebral and bulbo-spinal nervous structures and causing a corresponding variety of symptoms. Usually the spinal cord is affected early and, in accordance with the teachings of Charcot, it has been generally held that the cerebrum escapes involvement—at least, in the early stages of the disease. Investigations by various observers during the past few years have thrown doubt on this point and more refined clinical study and technique have demonstrated that the brain proper is affected early, if not distinctively, in this disease. In *American Medicine* of Dec. 12th, 1903, Professor Alexander McPhedran of the University of Toronto publishes an instructive account of several cases with post-mortem studies illustrating the early cerebral involvement and pointing out the more important diagnostic features. The following typical case illustrates the features of the disease. The patient was a man, aged 47 years, who worked in a cement factory. His habits and family history were fairly good. His illness began in the year 1901 with muscular twitchings and weakness of the thighs and later of the arms and hands. He was thus rendered unable to work, while walking became difficult and within a year impossible. The hands and arms grew stiff and weaker and underwent wasting. Speech began to fail in the seventh or eighth month of illness and eventually he became speechless. There was some degree of dysphagia, so that food could only be taken in the erect position. Marked jaw-jerk was present. There was some paresis of the lower facial muscles, he could not purse his lips or whistle, and the movements of the tongue were difficult of execution. Physical examination showed marked atrophy of the muscles of the shoulder girdle and arm, while the elbow-jerk was increased. There were fibrillary twitchings of all the affected muscles. The legs showed a less degree of muscular atrophy than the upper limbs, the knee-jerks were excessive, and the gait was spastic. The tendo Achillis jerk was marked. There were no sensorial disturbances and the sphincters acted normally. The mental condition was one of lucidity but his emotions were easily excited and he was easily provoked to immoderate laughter or to tears. He gradually grew worse and died in the twenty-fourth month of illness. In discussing the pathology Professor McPhedran states that the symptoms were quite characteristic. The paralysis, with atrophy of the upper extremities and face, indicated degeneration of the motor cells in the bulbar and cervical cord; the spastic paraplegia of the lower limbs and the irritability and wasting of the muscles of the arm and face showed the occurrence of degeneration in the upper or encephalic part of the pyramidal tract, probably as high up as the motor nucleus of the fifth nerve and the internal capsule, so that degenerative changes in the cerebral cortex could be surmised as being present. The emotional instability of the patient was due partly to the difficulty he had of making himself understood and partly to organic degenerative changes in the cerebral cortex which constitute a distinctive feature of this affection.

TRAUMATISMS OF THE EYE DURING LABOUR.

IT must be within the experience of every practitioner who has attended many cases of labour that affections of the eye and its appendages are of not infrequent occurrence even when the process of delivery, with the exception of being protracted, has been in all other respects perfectly normal. In such circumstances œdema of the eyelids, conjunctival hæmorrhages, and chemosis are often seen, but other and more important, though perhaps less conspicuous, traumatisms have been from time to time reported in the journals and noticed in treatises on ophthalmology. That such cases have not attracted much attention is shown by the fact that even in so large and important a work as the last edition of Lawson's "Diseases and Injuries of the Eye" we have been unable to find any reference to them. Much credit is due to Dr. W. Ernest F. Thomson and Dr. Leslie Buchanan for having investigated the subject of injuries to the eyes of children during labour and for collecting the results of their inquiries in a paper read before the Ophthalmological Society of Great Britain and published in the last volume of the transactions of that society which has just appeared. They have had an exceptionally large field of observation in the wards of the Glasgow Maternity Hospital and have devoted especial attention to this class of cases. Besides the above-mentioned conditions which occur in what may be termed natural, normal, or unassisted labours retinal and choroidal hæmorrhages have been noticed by several observers, and de Wecker relates a case in which the obstetrician, mistaking an orbit in a face presentation for an anus in a breech presentation, gouged out the eyeball with his finger. But it is in cases of labour where the efforts of nature have been assisted by the employment of forceps that traumatisms of the eye and the adjoining parts are of greatest frequency. Yet it speaks well for the care and skill with which this instrument is in general applied that bad results are so rarely seen. The chief troubles attributable to the pressure of the blades of the forceps are excoriations, œdema, exophthalmos and avulsion of the eye, fracture of the orbit, paralysis of the lid muscles, corneal affections, hyphæma, retinal and retro-bulbar hæmorrhage, optic atrophy, strabismus, hypermetropic astigmatism, cataract, and dislocation of the lens. This is a formidable list but some of the cases have been recorded but once. The writers of the article have themselves

seen most of the above-mentioned traumatisms, which they consider to be partly explicable by the circumstance that Glasgow is notorious for rickets and therefore for contracted pelves requiring the use of forceps, and they add that their experience of the extraordinary effects of pressure upon the eyeball leads them to the opinion that almost anything is possible in the nature of injury to internal structures. They have described a particular form of leucoma or opacity of the cornea which has not been previously noticed as the result of the application of pressure to the globe of the eye by the blades of the forceps. It consists in a traumatic keratitis which may be slight and transient only, presenting the appearance of a moderately well-marked haziness or opacity of the cornea, or it may be severe and lead to a more or less permanent opacity. This form they believe to be due, and they support their opinion by drawings taken from microscopical sections, to rupture, usually vertical, of the posterior elastic lamina of the cornea. The article is of much interest and will doubtless stimulate others to report any cases that may throw light on, and complete our knowledge of, these affections.

HEATON PARK, MANCHESTER.

THE corporation of Manchester undoubtedly did a wise thing in securing for the public the possession of Heaton Park, almost the last large open space sufficiently near the city to be available for health and recreation, and the people have shown their appreciation by flocking to it during the last so-called summer in their thousands, so that the provision for their entertainment and shelter, thought sufficient at first, is now found to be inadequate. For the dwellers in the uniformly monotonous and dingy streets occupied by the working-class population, extending as they do over wide districts where there is little to catch the eye but dirty bricks and black smoke, it must be not only a physical but a mental and moral refreshment to wander about a spacious park that still retains much natural beauty. When first the park was purchased it was the full intention to spend as little as possible on "improvements." Now, however, it is found that the drive from the main entrance, wide enough for a family, is not wide enough for a crowd; that tea-rooms on a large scale have become a necessity; that there must be shelters, six of them, in the park; and that for the band there must be a stand, while the hall itself is much out of repair. These various requirements will cost, it is estimated, £20,000. The city council decided at its last meeting to apply to the Local Government Board for its sanction to borrow this money. As one of the members said, "Let them not starve the park now that they had spent a quarter of a million on it." Thus expenditure, like knowledge, grows "from more to more." It is easy to borrow, the object is good, the temptation is great. Let us yield to it. What is really needed must be done but corporate ideas, with the rates at command, are apt to be large and the expenditure to be lavish.

POISONING DUE TO THE USE OF PICRIC ACID IN THE TREATMENT OF BURNS.

PICRIC acid solution has recently been recommended as an application to burns and a correspondence on the subject took place in our columns a short time ago.[1] As the treatment seems likely to become popular it is important to know that toxic symptoms may be produced. In the *Scottish Medical and Surgical Journal* for December Dr. J. Stuart Rose has published two cases in which they occurred. A boy, aged nine years, was scalded on Sept. 15th, 1903, on the left chest and flank. The burn was of the first degree with only one or two small blisters. An ointment composed of picric acid and vaseline (half a drachm to the ounce) was applied on lint. The scalds were dressed daily. On Sept. 18th he was drowsy, there was a slight icteric tint of the conjunctivæ, and the face and palms were a little yellow. The pulse was 120 but the temperature was normal. On the 19th the drowsiness continued, there was vomiting, and the temperature was 101·2° F. On the 20th and 21st the temperature fell to 99° and there was mild diarrhœa. The whole of the skin was yellow but especially that of the face, palms, and soles. The hair along the border of the scalp was deep yellow. The urine contained albumin and was of the colour of dark port wine, giving the impression of hæmoglobinuria, but neither blood nor bile pigment was present. The burns were dressed with boric ointment. On the 22nd the vomiting and diarrhœa continued; in the morning the temperature was 103°; in the evening it fell to normal. On the 23rd the discolouration of the skin was less; the burn was sodden-looking. To dry it up gradually a strip of lint two and a half inches by one inch covered with the picric acid ointment was applied in the loin. On the 24th there were vomiting and headache and the temperature was 101·4°. There was a bright red blotchy general eruption which was here and there papular. The urine was again deeply coloured. The picric acid dressing was removed. On the next day the rash was fading. In a second case a man, aged 45 years, scalded his shin and the same ointment was applied. In four days the skin and conjunctivæ were yellow and in six days the urine was like that in the previous case. There were slight diarrhœa and headache. The symptoms rapidly subsided when the ointment was discontinued. Toxic symptoms in these cases appear to have been due to using too strong a preparation of picric acid. It has been extensively used in 1 per cent. solution without untoward results.

[1] THE LANCET, Sept. 12th, 1903, p. 799.

THE CASE OF DR. LACHLAN GRANT.

IN THE LANCET of Dec. 19th, 1903, p. 1740, we referred to the all but final stage of the long drawn out dispute between the Ballachulish quarriers and the authorities of the company which they served. We say "all but final" because at the time of writing the men had not pronounced upon the terms accepted by their representatives. But as we expected the men's opinion coincided with that of their representatives and the dispute was at an end, victory resting with the quarriers and with Dr. Lachlan Grant. On Jan. 6th a meeting of the quarriers was held in the public hall, Ballachulish, presided over by Mr. D. Macmillan, the chairman of the medical committee. Mr. Macmillan after a few introductory words called upon Dr. Grant. That gentleman, who has been unanimously re-appointed as medical officer to the quarriers, spoke with gratitude of the magnificent and manly way in which they had stood by him during the struggle. He thanked all those who had helped him, whether as private individuals or in the press. He then referred to the way in which Dr. A. D. Kennedy had helped him during the interregnum and mentioned that he himself was going to take a holiday as Dr. Kennedy had kindly consented to carry on his work for a while. Dr. Kennedy also spoke and the meeting terminated. We cannot refrain from repeating our congratulations both to Dr. Grant and to the quarriers—to the former upon his having gained the confidence and trust of a most worthy body of men and to the latter upon the loyalty which they showed throughout a very trying time to their chosen medical officer. The fight has been long and arduous and has entailed no inconsiderable sacrifices upon both the quarriers and Dr. Grant. But the right has triumphed and we are glad to think that we have been able to give some aid towards such a desirable end. The men, some 400 in number,

are now all back at work and with Dr. Grant we can say that the past is buried.

THE REBUILDING OF ST. BARTHOLOMEW'S HOSPITAL.

THE treasurer of St. Bartholomew's Hospital, Sir Trevor Lawrence, has sent to the press a circular letter reminding readers of the needs of the hospital. He reiterates what we have already said in THE LANCET of Dec. 5th, 1903, p. 1587, and adds that the last occasion on which the hospital appealed for help from the public was 150 years ago. To-day a sum of £500,000 is needed. It is a large sum, but, as we have said many times previously, if the governors at the forthcoming meeting to be held at the Mansion House on Jan. 26th approach the citizens of London and the subjects of this great empire with a practical, thorough, and well-thought-out scheme we are convinced that the money will be forthcoming.

THE medical officer of health of the Cape Colony states that for the week ending Dec. 26th, 1903, only one case of plague was discovered in the colony—namely, a native male at East London on Dec. 23rd. Plague-infected rats were found at Port Elizabeth and at Lady Grey Bridge, but of 415 rats which were examined during the week in the Cape Town and Harbour Board area none was affected with plague. As regards the Mauritius a telegram from the Acting Governor received at the Colonial Office on Jan. 15th states that for the week ending Jan. 14th there were 44 cases of plague and 25 deaths from the disease.

AN appeal emanating from the National Hospital for the Paralysed and Epileptic in Queen-square, London, W.C., has been issued for funds to support an organised system of research into the origin of nervous diseases. The supporters of the appeal have been careful to point out that a separate account of the research department of the hospital will be kept.

MEDICINE AND THE LAW.

The Sale of Food and Drugs Act, 1875.

AT Stratford police-court on Jan. 18th Messrs. Picken Brothers (Limited) were convicted under Section 6 of the Sale of Food and Drugs Act, 1875, and fined £10 with £7 costs for selling cream of tartar found upon analysis to contain lead in the proportion of not less than four grains to the pound. The court was informed that this proportion might have serious results owing to the accumulative effects of lead as a poison and owing to cream of tartar being used by the consumer principally for the making of cooling drinks or in connexion with the making of bread. It was not alleged that the lead had been deliberately added or that the vendors or those who had supplied them were aware of its presence, and it was suggested on behalf of the defendants that it had found its way into the cream of tartar through leaden vessels having been used for the reception of the wine-lees from which the cream of tartar was prepared. A number of technical points were raised by the defence, one of which is of some importance to those whose duty it is to make the analysis and to give the certificate necessary on such occasions. In the case of Messrs. Picken Brothers it was argued that the certificate was defective in not stating the constituent parts of the sample analysed and their proportions but merely that it contained lead in the proportion mentioned above, and that this would be injurious. In the group of cases decided a few years ago with regard to arsenic in beer two certificates were held to be bad. One of these stated that the sample "contained arsenic" and the other that it "contained a serious quantity of arsenic." These cases are reported under Goulder *v.* Rook, 1901, 2 K. B. 290, and in that case an instance was afforded of a certificate of analysis which was held to be sufficient. This one was as follows:—

> I am of opinion that the said sample contained the parts as under of foreign ingredients—viz., arsenious acid to the extent of not less than one-eighth of a grain per gallon.

In an earlier case (Fortune *v.* Hanson, 1896, 1 Q. B. 202) a certificate of analysis of milk was held to be bad which stated that the sample "contained the percentage of foreign ingredients as under: 5 per cent. of added water." The distinction to be drawn between an analysis relating to the presence of arsenic in beer and another which determines the presence of added water in milk lies in the fact that arsenic, in however small proportions, is a foreign ingredient in beer but that water is one of the natural constituent parts of milk, and that the point at which it becomes a foreign ingredient is by no means a matter of certainty. In his judgment in Fortune *v.* Hanson Mr. Justice Kennedy put the matter thus, after referring to the form of certificate of analysis to be found in the schedule to the Act: "If something which could not exist as a constituent in water, such as pepper or sand, were found then it would be sufficient to state in the certificate that the sample analysed contained so much per cent. of foreign ingredient; but where the thing said to be added is one of the constituents of the article analysed then, in my opinion, the analyst must in his certificate state the facts on which he has come to his conclusion sufficiently to enable the magistrates to come to a conclusion themselves." The matter is one for the consideration of public analysts, as no one wishes to prosecute unnecessarily inquiries into irrelevant details with regard to the composition of the sample submitted for analysis and possibly to make some slight error in a calculation not material to the case for which his certificate is to be used but likely to be seized on by the defence for the purpose of discrediting the whole of the analysis and certificate. The form of certificate as given in the schedule to the Act is as follows: "I am of opinion that the said sample contained the parts as under, or the percentages of foreign ingredients as under." This is clearly intended to supply alternative forms of certificate for two different classes of case. In the certificate held to be sufficient in Goulder *v.* Rook an attempt appears to have been made to combine the two forms in one.

Illegal Operation by a Herbalist.

A herbalist, named Lardent, and a woman of the name of Ada Booth were convicted before Mr. Justice Ridley at the recent session at the Old Bailey for using an instrument upon a woman named Mitchell with intent to procure a miscarriage. Evidence was given that Mitchell was introduced to the prisoners by a friend and that an attempt was first made to obtain the desired object by the use of drugs. The jury recommended the prisoners to mercy in convicting them, adding an expression of their hope that the woman might be dealt with leniently on account of her state of health. Mr. Justice Ridley, however, did not in the light of the facts proved consider himself justified in making a distinction between them and passed a sentence upon each of five years' penal servitude.

An Object Lesson in the Housing Question.

At an inquest held recently before Mr. Wynne Baxter at Stepney it was proved that the deceased, the wife of a Hebrew teacher, had taken her own life by swallowing rat poison in despair at the poverty of her circumstances, aggravated by an announcement on the part of the landlord that he was about to raise the rent paid by her and her husband. Apparently the deceased let part of the premises occupied to lodgers when able to do so but had had a difficulty in finding tenants. In commenting upon the rent demanded—25*s.* a week, to be raised to 28*s.*—the coroner observed to a witness, Moss Cohen, the landlord's son, that it was outrageous. He added that it was a case of "cat eat cat" and that such a rent must realise from 40 to 50 per cent. upon the landlord's outlay. The evidence of a policeman was to the effect that the family of the deceased were in distressed circumstances, that her rooms were in a filthy condition, and that her bed was a piece of sacking.

The Hardwicke Society and Antivivisection.

Last week the members of this well-known legal debating society discussed the subject of so-called "vivisection." Personal abuse was absent, though neither side lacked conviction or eloquence. Among the speakers were two possessing medical qualifications who, avoiding all technicalities, dwelt on the advances in medical science which had been brought

about by means of legitimate experiment for the benefit of the human race. Those holding antivivisection theories made a strong attack on the demonstration of experiments for the benefit of medical students.

THE UNIVERSITY OF LONDON: THE INSTITUTE OF MEDICAL SCIENCES.

THE following letter has been addressed to the Earl of Rosebery, Chancellor of the University of London:—

MY LORD,—We have observed with satisfaction that the Senate of the University of London have lately issued an appeal for funds to build and endow an Institute of Medical Sciences under the control of the University.

The positions which we severally hold in connexion with the general hospitals of London and their medical schools have compelled us, especially of late, to give the proposal that the University should undertake the teaching of the preliminary scientific subjects of the medical curriculum the most serious consideration.

We are convinced that the adoption of the recommendation of the Royal Commission in favour of the concentration of the teaching of these subjects in one or more centres has become a matter of urgent necessity in the interests alike of medical education, of the hospitals, and the medical schools.

We are, My Lord, yours faithfully,

SANDHURST,
Chairman of the Weekly Board, Middlesex Hospital.
TREVOR LAWRENCE,
Treasurer, St. Bartholomew's Hospital.
H. COSMO BONSOR,
Treasurer, Guy's Hospital.
SYDNEY HOLLAND,
Chairman, London Hospital.
J. G. WAINWRIGHT,
Treasurer, St. Thomas's Hospital.
TIMOTHY HOLMES,
Treasurer, St. George's Hospital.
H. A. HARBEN,
Chairman, St. Mary's Hospital.
THOS. PERCY BORRETT,
Chairman, Charing Cross Hospital.
J. WOLFE-BARRY,
Chairman, Westminster Hospital.

A large sum is required to carry out the scheme. The honorary treasurers of the appeal fund are Dr. J. K. Fowler, member of the Senate, and Mr. H. T. Butlin, Dean of the Faculty of Medicine, 35, Clarges-street, W. The following donations in addition to those already announced have been promised to the Institute of Medical Sciences Fund:—

Mr. Alfred Belt	£5000	Sir Henry Roscoe, F.R.S. ...	£100
Messrs. Rothschild and Sons	500	Sir E. Cooper Perry, M.D. Cantab.	100
Dr. J. K. Fowler	250	Dr. E. Lauriston Shaw... ...	100
Mr. H. J. Chinnery	100	Mr. C. B. Lockwood	50
Sir Charles Metcalfe, K.C.M.G.	25	Sir R. Douglas Powell, Bart.	50

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Jan. 14th, Mr. JOHN TWEEDY, the President, being in the chair.

Diplomas of Fellowship were issued to two candidates who have now attained the age of 25 years.

A report from the museum committee was submitted. The report mentioned *inter alia* the addition to the museum of a number of interesting specimens illustrating the agreement of external sexual characters in sheep and fowls, the results of experiments performed by Mr. S. G. Shattock and Dr. C. G. Seligmann.

The best thanks of the Council were given to Dr. G. V. Poore for presenting from the library of the late Mr. Marcus Beck notes of Mr. John Marshall's lectures on surgery at University College taken by Mr. Cluff.

The Council considered the question of renewing the existing arrangement with the Metropolitan Asylums Board for the supply of antitoxin; the report was postponed for further consideration.

The Council considered some further information supplied to it by the Director-General of the Army Medical Service on the subject of the physical disability of recruits and it was decided to reply to the Physical Deterioration Committee that it saw no ground to modify the opinion which it had previously expressed on the matter.

Sir HENRY G. HOWSE, as chairman of the committee on the physical disability of recruits for the army, reported that a letter had been received from the Physical Deterioration Committee asking the College to recommend the names of two surgeons who would give evidence representing the views of the profession in general on the condition of the eyes and the prevalence of syphilis respectively among the poorer classes of the population, and that the names of Mr. Tweedy, the President, and Sir Alfred Cooper, Vice-President, had been submitted to the committee. The nomination of these two gentlemen was approved.

The SECRETARY reported the receipt of essays for the Jacksonian and Triennial prizes.

Mr. Tweedy, the President, was appointed Hunterian Orator for 1905.

The President presented to the College an enamelled gold presidential badge representing the College seal. A unanimous vote of thanks was given to him for his gift.

The SECRETARY reported that the portrait of Sir Spencer Wells had been returned from Nottingham and that a letter had been received from the director of the Nottingham Museum and Art Gallery conveying the thanks of the Art Museum committee of the city corporation for the loan of the portrait.

On the recommendation of the examiners of Part I. of the examination in public health the Council adopted the following resolutions:—

(*a*) That in the interest of factory and workshop workers the amount of carbonic acid in the air of such places should not exceed nine volumes in 10,000. (*b*) That carbonic acid produced by the combustion of gas or oil used for lighting purposes should be made to pass directly to the outside air and should not be allowed to contaminate the air of the factory or workshop.

It was resolved that copies of these resolutions should be forwarded to the Secretary of State for the Home Department and to the Incorporated Society of Medical Officers of Health.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8668 births and 5557 deaths were registered during the week ending Jan. 16th. The annual rate of mortality in these towns, which had been 15·4, 20·6, and 20·3 per 1000 in the three preceding weeks, further declined last week to 19·0 per 1000. In London the death-rate was 18·8 per 1000, while it averaged 19·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 8·5 in Coventry, 9·6 in Hornsey, 10·3 in Walthamstow, 10·8 in Leyton, 11·1 in Devonport, 12·2 in Handsworth, 12·5 in Kings Norton, and 12·6 in Derby; while the highest rates were 24·7 in Gateshead, 25·6 in Rochdale, 27·5 in Tynemouth, 28·7 in Warrington, 29·0 in Preston, 30·1 in West Hartlepool, 33·0 in Merthyr Tydfil, and 38·2 in Wigan. The 5557 deaths in these towns last week included 450 which were referred to the principal infectious diseases, against 389, 495, and 462 in the three preceding weeks; of these 450 deaths 136 resulted from measles, 131 from whooping-cough, 62 from diarrhœa, 51 from diphtheria, 44 from scarlet fever, 24 from "fever" (principally enteric), and two from small-pox. No death from any of these principal infectious diseases was registered last week in Hornsey, Hastings, Brighton, Devonport, Burton-on-Trent, Coventry, Derby, Bootle, Barrow-in Furness, or Huddersfield; among the other towns the highest death-rates from these diseases were recorded in Walthamstow, Handsworth, Wigan, Warrington, Salford, Preston, and Gateshead. The greatest proportional mortality from measles occurred in Willesden, West Ham, East Ham, Warrington, Salford, Preston, Rotherham, and Sunderland; from scarlet fever in Merthyr Tydfil; from whooping-cough in Portsmouth, Handsworth, Birkenhead, Wigan, West Hartlepool, Gateshead, and Newport (Mon.); and from diarrhœa in Walthamstow. One fatal case of small-pox was registered last week in Nottingham and one in Sunderland, but not one in any other of the 76 large

towns. The number of small-pox patients in the Metropolitan Asylums hospitals, which had been 26 on each of the two preceding Saturdays, was again 26 on Saturday last, Jan. 16th; four new cases were admitted during the week, against seven, four, and six in the three preceding weeks. The number of scarlet fever patients remaining under treatment in these hospitals and in the London Fever Hospital was 1660 at the end of last week, against 1617, 1632, and 1659 at the end of the three preceding weeks; 195 new cases were admitted during the week, against 142, 194, and 201 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 271, 404, and 433 in the three preceding weeks, declined again last week to 406, but were 96 in excess of the number in the corresponding period of last year. The causes of 71, or 1·3 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Newcastle-on-Tyne, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, St. Helens, Warrington, Blackburn, Sheffield, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 20·8, 21·7, and 23·2 per 1000 in the three preceding weeks, declined again to 20·2 per 1000 during the week ending Jan. 16th, but was 1·2 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 16·8 in Edinburgh and 18·1 in Leith, to 24·3 in Dundee and 27·7 in Perth. The 668 deaths in these towns included 23 which were referred to measles, 15 to whooping-cough, 13 to diarrhœa, five to small-pox, three to diphtheria, three to "fever," and one to scarlet fever. In all 63 deaths resulted from these principal infectious diseases last week, against 73, 71, and 53 in the three preceding weeks. These 63 deaths were equal to an annual rate of 1·9 per 1000, which was 0·4 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 25, 26, and 13 in the three preceding weeks, rose again last week to 23, of which 19 occurred in Glasgow and two in Paisley. The deaths from whooping-cough, which had been 16, 14, and 15 in the three preceding weeks, were again 15 last week, and included six in Aberdeen, two in Glasgow, two in Edinburgh, two in Dundee, and two in Leith. The fatal cases of diarrhœa, which had been 16, 21, and 15 in the three preceding weeks, further declined last week to 13, of which six were registered in Edinburgh, four in Glasgow, and two in Dundee. The deaths from small-pox, which had been four, five, and three in the three preceding weeks, rose again to five last week, and included four in Glasgow and one in Leith. Of the three fatal cases of diphtheria two were recorded in Paisley. The three deaths from "fever" included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 160, 177, and 213 in the three preceding weeks, declined again last week to 198, but were 24 in excess of the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·9, 31·8, and 27·8 per 1000 in the three preceding weeks, rose again to 28·8 per 1000 during the week ending Jan. 16th. During the past four weeks the death-rate has averaged 27·1 per 1000, the rates during the same period being 18·2 in London and 18·4 in Edinburgh. The 209 deaths belonging to Dublin, registered during the week under notice, were seven in excess of the number in the preceding week, and included ten which were referred to the principal infectious diseases, against seven, 16, and 23 in the three preceding weeks; of these, five resulted from whooping-cough, three from diarrhœa, and two from "fever," but not one from any other of the principal infectious diseases. These ten deaths were equal to an annual rate of 1·4 per 1000, the death-rates last week from the principal infectious diseases being 1·5 in London and 1·4 in Edinburgh. The fatal cases of whooping cough, which had been three, 12, and nine in the three preceding weeks, further declined last week to five. The deaths referred to different forms of "fever," which had been two, two, and five in the three preceding weeks, declined again to two last week. The three fatal cases of diarrhœa corresponded with the number in the preceding week. The 209 deaths in Dublin last week included 31 of children under one year of age and 61 of persons aged 60 years and upwards; the deaths of infants showed a slight decline, while those of elderly persons were in excess of the number in the preceding week. Four inquest cases and four deaths from violence were registered, and 82, or nearly two-fifths, of the deaths occurred in public institutions. The causes of nine, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Civil Practitioner J. D. Wynne to be Surgeon and Agent at Clonmel (dated Jan. 18th, 1904).

ROYAL ARMY MEDICAL CORPS.

Lieutenant Colonel J. Hickman retires on retired pay (dated Jan. 20th, 1904); Captain J. M. Buist, from the Seconded List, to be Captain (dated Dec. 1st, 1903).

Captain J. M. Buist is instructed to proceed to Woolwich for duty. Major A. L. Borradaile is to join the Western District for duty. Captain E. S. Clark, lately at the Royal Army Medical College, is to join the Home District for duty. Captain A. C. Lupton and Captain J. C. B. Statham are selected to attend a course of study at the Royal Army Medical College in London. Lieutenant-Colonel W. G. Macpherson, C.M.G., is appointed Principal Medical Officer, North China.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion the East Lancashire Regiment: Richard Langford Fitz-Gerald to be Surgeon-Lieutenant (dated Jan. 16th 1904). 2nd Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Surgeon-Lieutenant-Colonel J. Knox resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated Jan. 16th, 1904). 2nd Volunteer Battalion the Manchester Regiment: Surgeon-Major G. H. Darwin resigns his commission (dated Jan. 16th, 1904).

THE TRAINING OF BOYS FOR SEA SERVICE.

On Jan. 14th at the Royal United Service Institution, Admiral Sir J. C. Dalrymple Hay, in a lecture on the above subject, said that the Royal Navy at present employed about 83,000 seamen who had entered as boys in the training ships. To meet losses by the discharge of seamen at the age limit and by death 4700 boys were annually entered for the naval training ships and about 1000 in His Majesty's ship *Northampton* and her tenders. There were now 9900 boys borne for training. The number of 83,000 seamen was sufficient for the peace force now in commission but if war should break out the Naval Reserve was the only trained force on which we could rely. The Naval Reserve was a very trustworthy force and its strength up to the end of last year was 26,031. It must be remembered that these men being taken from the merchant service in time of war would deprive it of its best men at the very time that our mercantile marine would be fully employed in provisioning this country and in distributing its commerce. A further Naval Reserve was being created which was to number 15,000 men and which would apparently require an additional number of entries of boys. The sea service required, like every other trade and profession, a long apprenticeship and it was proved that after the age of 17 years lads were not attracted by its adventurous character. An entry of 4700 boys annually was sufficient to keep up the number of seamen for the Royal Navy. It was obvious, therefore, that a further entry of 9500 boys would supply the 175,000 men required for the mercantile marine. He thought that the State should step in and do for the merchant navy what it had already done for the Royal Navy. Was it too much to hope that the Admiralty and the Board of Trade could arrange for such an increase of training and make the men of the merchant navy all subjects of the King and a real reserve for the navy in case of war?

The War Office is asking for certified returns from all officers of the Royal Army Medical Corps whose war services are not correctly recorded in the quarterly "Army List."

Correspondence.

"Audi alteram partem."

THE PROPOSAL TO PROHIBIT MEDICAL PRACTITIONERS FROM DISPENSING.

To the Editors of THE LANCET.

SIRS,—I observe that on Jan. 27th the members of a branch of the British Medical Association are to be asked to pass a motion to the effect that "no person registered under the Medical Act (with a few exceptions) shall dispense or supply drugs or other medicaments to anyone." The suggested penalty for a first offence against the aforesaid is to be a fine of not less than £100 and for the second offence erasure peremptorily from the Medical Register. The General Medical Council has judiciary power, of course, over the medical practitioner but it exercises no jurisdiction and is never likely to have any legal authority over the druggist. Those who, like myself, are engaged in consulting practice know well the unlimited extent to which one's prescriptions may be bandied about and that the druggist may without let or hindrance dispense any given prescription as frequently as its repetition is requested. It is now suggested that practically all practitioners—not only without option but under heavy penalty—should be compelled to adopt this method of treating and of interchange with their patients, but I fear the possible undesirable effects of such an enactment have not been duly considered by those who are responsible for the promulgation of this proposed scheme. Take the practitioners in populous but not over-wealthy districts and we are bound to infer that: if this project be adopted many of their patients will be not only unwilling but unable to pay both for the prescription and for the medicaments which may be written thereon, for the patient's ailment will in such circumstances be required to contribute towards the maintenance of two expensive establishments, that of the medical man and that of the druggist, instead of one as at present. The ever-increasing demand upon the out patient departments of our hospitals is already a vexed question and one difficult to cope with, but it will be apparent to everyone that if the scheme which I now refer to should eventually become law our out patient departments will become still more unwieldy and more reprehensible, for the new procedure will prove too expensive to many and will drive to our hospitals those who, but for this new requirement and unnecessary extra expense, would never have entertained the idea of seeking advice at any of our charitable institutions. I feel assured, therefore, that this departure is one which cannot commend itself to the medical profession generally and should be strenuously opposed whilst the project is still in its embryonic state.

I am, Sirs, yours faithfully,

Gordon-square, W.C., Jan. 19th, 1904. JAMES OLIVER.

MALIGNANT GROWTHS AND NORMAL REPRODUCTIVE TISSUES.

To the Editors of THE LANCET.

SIRS,—In your issue of Dec. 26th, 1903, p. 1830, there is an abstract of some observations by Professor J. B. Farmer, Mr. J. E. S. Moore, and Mr. C. E. Walker. They have been investigating karyokinetic processes in malignant tumours, a field of investigation in which I, too, worked extensively some years ago. Since my observations do not seem to be familiar to these authors, who are, I believe, botanists by profession, I should be glad if you would give me space in your journal for the following remarks. These authors have found that in the cell development of malignant tumours the mitotic figures exhibit certain definite differences from those occurring in normal tissues. The essential alteration lies in the fact that the cells undergo a reductive division, similar to that occurring in the formation of sexual cells, whereby germinal tissue is formed. The authors state explicitly that the cells do not become embryonic, in fact, differ from these through the small number of their chromosomes. In addition, the chromosomes are also changed in shape. These observations coincide more or less with those described some time ago in various publications—e.g., Virchow's Archiv, vol. cxix., 1890, p. 299; *Archiv für Mikroskopische Anatomie*, vol. xliii.; the *Festschrift für Virchow*, in 1891; and in the *Verhandlungen der Anatomischen Gesellschaft*, in 1891, p. 255, and elsewhere. I have given a connected account of these processes in my monograph, entitled "Die Studien über die Spezifizität, den Altruismus und die Anaplasie der Zellen" (Berlin, 1893), and reverted to the subject in my book on "Die Mikroskopische Diagnose der Bösartigen Geschwülste" (second edition, Berlin, 1902) on pp. 91 *et seq.*

According to my investigations it is not a question of a reduction to exactly one-half the normal number of chromosomes nor does the reductive division occur in the manner seen in the maturation of ova and spermatozoa. According to my observations the reduction is effected in a two-fold manner—either by asymmetrical nuclear division or by a destruction of individual chromosomes without destruction of all the nuclear substance. The first result by either of these two processes is cells with a smaller number of chromosomes than normal. I have called these cells *hypochromatic*. In the further stages of development these chromosomes may be doubled, quadrupled, sextupled, and so on, so that from hypochromatic hyperchromatic cells may arise but always with a smaller than the normal number of chromosomes of human cells. I have sought to correlate with these observations the peculiar characters which the cells of malignant growths possess, especially their greater power of independent existence and their loss of differentiation as compared with the normal tissue cells. The combination of these two properties I have termed *anaplasia*, an expression now very generally employed in the scientific world even by those investigators who do not altogether agree with the details of my observations on the cell processes. I have also given a detailed account of the change of form of the chromosomes and have shown how extraordinarily manifold their form may be in malignant tumours which in nearly all cases differ not only from normal tissues but also amongst each other, so that not only in different cancers but in one and the same the most varied forms of chromosomes may be found.

Since these investigations are, perhaps, but little known in England I am naturally anxious in reference to the investigations of Professor Farmer, Mr. Moore, and Mr. Walker to guard my priority of observations in this field.

I am, Sirs, yours faithfully,

Berlin, Jan. 16th, 1904. PROFESSOR D. V. HANSEMANN.

To the Editors of THE LANCET.

SIRS,—The letter of Professor v. Hansemann, a proof of which you have allowed us to see, contains a number of misleading statements some of which call for comment. Incidentally we may remark that only one of us is a botanist, although two of us have been frequently associated in work on vegetable, as well as on animal, cytology.

We are at a loss to understand why Professor v. Hansemann should assume that we are unaware of his investigations. As a matter of fact we are perfectly familiar with them, and as a consequence with the circumstance that our own conclusions respecting the meaning of the cytological phenomena in question are in all essential features at variance with those arrived at by him. It is perfectly clear both from his letter and still more so from a study of his work of 1902, cited by him, that he has either entirely misapprehended the facts connected with the "reducing" divisions characteristic of sexually reproductive tissue or that he has not succeeded in tracing the similarity that exists between the processes in them and in malignant growths respectively.

Professor v. Hansemann's statement that the occurrence of an odd number of chromosomes in any cell of any animal is necessarily due to either an asymmetrical division or to degeneration (or elimination) is not in accordance with known facts. There is no *a priori* reason why a cell that has undergone reduction should not possess an odd number of chromosomes, and, indeed, some animals *do* exhibit such numbers. It is only the *somatic* cells that normally must contain an even number and this is due to the fact that ovum and sperm each possess identical (even or odd) numbers before their union in fertilisation.

No one who has examined the dividing nuclei of malignant tissue has doubted the occurrence of abnormalities, but no one, so far as we are aware, and certainly not Professor v. Hansemann, had previously suggested those resemblances between reproductive and malignant tissues that are involved in the recognition, in each, of the existence of the heterotype

mitosis. Indeed, we have so far failed to identify those special points in our own communication for the discovery of which Professor v. Hansemann is so anxious to guard his priority. For whilst, in common with others who have worked at this subject, we have naturally recognised the frequent occurrences of irregular nuclear divisions, the conclusions we have reached, as well as the interpretation we have put on the facts, are, as Professor v. Hansemann admits in his letter, widely divergent from those to which he has himself been led.

We are, Sirs, yours faithfully,

J. BRETLAND FARMER.
J. E. S. MOORE.
CHARLES WALKER.

*** In the circumstances we decided to give Professor Farmer, Mr. Moore, and Mr. Walker an opportunity of replying to Professor v. Hansemann in the same issue of THE LANCET in which Professor v. Hansemann's letter appears.—ED. L.

THE METROPOLITAN ASYLUMS BOARD AND ITS ASSISTANT MEDICAL OFFICERS.

To the Editors of THE LANCET.

SIRS,—To the reasons assigned by you in the annotation on the above subject in THE LANCET of Jan. 16th, p. 177, for a more reasonable notice than one month being given prior to the dismissal of the seven assistant medical officers on the ground that there is no work for them to do, may I add a further consideration—to wit, the probability that the services of these gentlemen will be required should the Local Government Board authorise the managers of the Asylums Board to provide accommodation for the isolation and treatment of persons suffering from consumption? In this connexion I would point out that the Poor-law infirmaries are rapidly filling up, pauperism already standing at a high level, and being likely still further to increase should the winter prove severe. In which event it would be of great advantage to the metropolis should the Local Government Board's decision enable the managers to relieve those establishments by the transfer to Gore Farm hospitals of a sufficient number of consumptives—say 850—to fill the lower hospital which was designed for the reception of that number of small-pox patients.

I am, Sirs, yours faithfully,

Kensington, Jan. 16th, 1904. T. ORME DUDFIELD.

*** We publish Dr. Dudfield's sensible suggestion with pleasure and wonder whether it is too late for the Metropolitan Asylums Board to reconsider its injudicious action. The medical profession would like to hear the reasons for the dismissal of the seven assistant medical officers fully explained. Is it true that the places of the salaried men are to be taken by unpaid young men seeking to acquire the instruction necessary to obtain the diploma of public health? We have heard that this dangerous innovation may be going to take place.—ED. L.

THE UNRESTRICTED SALE OF DANGEROUS DRUGS.

To the Editors of THE LANCET.

SIRS,—I desire to call attention to a grave defect in the law controlling the sale of dangerous drugs. There is apparently nothing to prevent any person who obtains possession of a prescription from procuring by its aid enough poison to kill a community.

An undated copy of a prescription has just come into my possession from a firm of pharmaceutical chemists by means of which a patient in a short period of time had obtained no less than 17½ ounces of a 20 per cent. solution of cocaine hydrochlorate. This quantity of solution contains 1680 grains of the highly poisonous alkaloid, of which, according to the British Pharmacopœia, the maximum dose is half a grain. This large amount of poison had been procured by taking this copy of a prescription to one firm of druggists after another (the names of many different firms are stamped upon it) and obtaining an ounce at a time from each, save on one occasion when half an ounce only was supplied. Half an ounce only was ordered on the prescription. With the exception of the making up of a double dose everything seems to have been done to meet the requirements of the law. The original prescription had been apparently given to the patient by a high authority. But anything more serious to the welfare of the public cannot well be imagined than a system under which drug habits go unchecked and deadly poisons can be procured wholesale. Druggists cannot well hesitate to make up the prescriptions of well-known medical men, especially when a prescription bears upon its face the stamped names of some of the best firms in the trade certifying that it has already been dispensed by them.

The remedy which suggests itself to me and which probably might be adopted not only in connexion with the prescribing of lethal doses of dangerous drugs but also with regard to many prescriptions for disorders requiring but a short course of treatment, is one which I am assured by a highly respectable firm of pharmaceutical chemists they would gladly welcome. It is, that in all cases where medical men prescribe such drugs as morphia, opium, cocaine, &c., which are known to induce a habit, the words "*Not to be repeated*" should be written across the prescription, which should be signed by the prescriber in full and not merely initialled. By this means the prescriber would be able to control the quantity of the drug taken or used and prescriptions would not be handed about from one person to another *ad libitum*, especially if the words "*not transferable*" were added. We know but too well how many valuable lives are lost and reputations ruined under the working of the present system which loudly calls for amendment. I may add that I fortunately obtained possession of the poison and the prescription from the patient and was thus enabled to save a valuable life.

I am, Sirs, yours faithfully,

Margaret-street, W., Jan. 19th, 1904. T. OUTTERSON WOOD.

SOME FORMS OF CHRONIC ABDOMINAL SURGICAL DISEASE.

To the Editors of THE LANCET.

SIRS,—Mr. E. Stanmore Bishop in his address under this title[1] gives currency to two theories concerning the action of the colon which I believe to be ill-founded. The first of these is Dr. R. W. Leftwich's theory (to quote Mr. Bishop's words) "that the contents of the large intestine are carried forwards mainly by syphonage, although peristaltic action is also present to a subsidiary extent." The objections to this theory are: 1. It assumes that the walls of the colon have a sufficient rigidity to allow syphonage to occur; not only is the wall of the *living* colon eminently collapsable but it is subject to the intra-abdominal tension kept up constantly by the elasticity and contraction of the abdominal walls. 2. It assumes that the contents of the descending colon are in a sufficiently fluid condition, which is not normally the case. 3. Dr. W. B. Cannon's[2] observations on the passage of the contents of the colon, made on the cat by means of bismuth laven food and x rays, revealed the fact that there is normally an anti peristalsis in the proximal part of the colon; in this movement the parts corresponding to the human ascending and transverse colon were involved. In the arrangements of its muscular coat the colon of the cat does not differ from that of man; we may safely infer that the peristaltic movements are the same. The characteristic arrangement of the muscular coats of the colon is adaptational to the peculiar peristaltic movements which occur in the colon. 4. The muscular coats of a foot of colon weigh more than those of two feet of small intestine. One may infer that they are sufficient for their work in the case of the great intestine as in the case of the small without the aid of syphonage. 5. Except in the possession of an extremely short mesentery for the ascending colon, the arrangement of the great intestine of man does not differ from that seen in many mammals, in which, because of their posture, syphonage is impossible. Yet the muscular coats of the human colon are better developed than is generally the case in mammals. 6. It is impossible to obtain a syphon action in the human colon by experiment on the cadaver.

[1] THE LANCET, Jan. 16th, 1904, p. 139.
[2] American Journal of Physiology, vol. vi., p. 251.

The second theory, to which I think strong objection should be made, is that of the nature of the great intestine, which Mr. Stanmore Bishop regards as "the slopstone and drain" to carry off the refuse of the stomach and small intestine. It is not nature's habit to use seven or eight feet of an elaborate tube furnished with a carpet of glands and lymphoid tissue, supplied most richly with arteries, veins, and lymphatics, with a delicate and easily disorganised nervous mechanism, to play the part of an excretory duct or cloaca. Yet Metchnikoff [3] and Dr. E. Barclay-Smith [4] have each concluded that the great intestine, as far as man is concerned, is a useless and dangerous structure and that its presence in man is a blunder on the part of nature which, however, can be obviated by the aid of the surgeon. The Metchnikoffian theory of the great intestine rests on two facts: (1) we do not know the function of the great intestine; and (2) the health of the body is improved by the removal of a *diseased* great intestine. There is no evidence that the excision of a healthy or normal great intestine leads to an improvement of the well being of the individual.

My reason for protesting against the "syphon drain-pipe" theory of the great intestine is that, were it accepted by a younger generation, it would retard a much-needed inquiry into the functions of the colon and the normal stimuli whereby its nervous and muscular mechanisms are set in operation.

From the point of view of the comparative anatomist it seems a more logical inference to suppose that it would be easier, did we know the functions of the several segments of the alimentary canal, to adapt the human diet to the canal than by surgical interference to modify the canal to suit the artificial diet of civilisation.

I am, Sirs, yours faithfully,

A. KEITH, M.D. Aberd.

London Hospital Medical School, Jan. 18th, 1904.

THE BORDERLANDS OF INFECTIOUS DISEASES AND THEIR MANAGEMENT.

To the Editors of THE LANCET.

SIRS,—We seem to be on the verge of obtaining the clear white light of truth on the second part of this subject, thanks to the manly courage of Dr. H. E. J. Biss in revealing some of the facts. The question of the borderlands of infectious diseases is eclipsed for the moment by the facts disclosed as to the critical state of the Metropolitan Asylums Board's hospitals and, as a matter of fact, by many medical officers of health as to isolation hospitals generally, as well as notably by Mr. E. D Marriott of Nottingham.

The facts divulged from time to time for some years past have caused some misgiving to many, but no one outside an isolation hospital could credit that they were as serious as stated by Dr. Biss in his last letter. If during five years in the Metropolitan Asylums Board's hospitals 2562 patients who had been admitted for scarlet fever were attacked with diphtheria during their convalescence in hospital and if about the same number who were admitted into hospital suffering from diphtheria likewise sickened with scarlet fever then I think the strongest case is made out for an immediate inquiry so that the medical staffs of these hospitals may have an opportunity of unburdening their minds, for they must be fulfilling their duties with heavy hearts. The darkest days of ophthalmia in barrack schools pale before such revelations of, at least, some of these miscalled isolation hospitals.

If the results made known are only obtainable after isolation hospitals are constructed *secundum artem*, and under efficient management, then there is only one course open—the doors must be closed. But I am still loth to believe that they cannot be rendered serviceable for their purpose, notwithstanding Dr. Biss's alarming figures. I therefore join in calling upon those who are answerable for the construction and management of these hospitals to institute a public inquiry by a competent and disinterested commission without delay. Should those in authority burke an inquiry it will become a question of "urgent public importance" in the House of Commons. Meanwhile I would go further and say, ought not the construction of new isolation hospitals to be prohibited pending an inquiry?

I am, Sirs, yours faithfully,

Rugby, Jan. 16th, 1904. CLEMENT DUKES.

[3] The Nature of Man. English translation, by P. C. Mitchell. London, 1903.

[4] Proceedings of the Cambridge Philosophical Society, vol. xii., Part I., 1903.

CHLORETONE IN SEA-SICKNESS.

To the Editors of THE LANCET.

SIRS,—As it was through the correspondence columns of your valued journal that I was first made acquainted with the efficacy of chloretone in sea-sickness, and as I have just recently realised the value of that information, I deem it my duty to contribute through the same medium my grateful testimony in confirmation of your correspondents' reports. My daughter (aged about 20 years) is so fond of the sea that she always prefers boat to train, notwithstanding the fact that she has (until this last trip) invariably had to undergo the ordeal of at least 24 hours' sea-sickness. She sailed from London Docks on Dec. 30th per s.s. *Avon* to Grangemouth and returned by same steamer last Friday morning. On this occasion she took with her a supply of chloretone capsules, five grains each, and for the first time in her life made the sea trip not only without sickness but with improved appetite and spirits. In fact, she partook with relish of fats and vegetables, things that she could not tolerate at home. She attributes (I believe rightly) her immunity to the chloretone capsules, two of which she took before setting out and returning. She was directed to take one every two hours if threatened with sickness, but fortunately occasion did not arise, although the trip both ways was very rough, the vessel shipping numerous heavy seas and rolling very much. I may also add that I have found the same preparation useful in some cases of insomnia, reflex headache and vomiting, and would very much like if some of your numerous readers could favour THE LANCET with their experience of its effects in these directions and such explanation of its action as may assist in indicating suitable cases and mode of administration.

Apologising for the unintended length of this communication,

I am, Sirs, yours faithfully,

JOHN DUNLOP, L.R.C.P. Edin., &c.

Seven Kings, Ilford, Jan. 14th, 1904.

THE LUNG REFLEX OF ABRAMS.

To the Editors of THE LANCET.

SIRS,—I am again obliged to correct Dr. Campbell's statement to the effect that I acknowledge the action of the respiratory muscles "in explaining reflex pulmonary expansion." Yes; after the expansion has passed a certain point, already frequently pointed out, and safeguarded in my last letter by the words "after passive recoil of the chest has done its part." I am afraid I must admit my inability to follow Dr. Campbell in his comparison of the action of an entire organ, like the heart, with that of a group of muscles only forming part of a complicated system of machinery, nor shall I venture to entertain the somewhat mystical conception that muscles when relaxing may be at the same time contracting, more especially as this is based on observations which Dr. Campbell has made upon himself.

Now in respect of lung contraction in a limited area Dr. Campbell dismisses physiological experiments as valueless, believing, curiously enough, that in such the lungs are necessarily subjected to a positive pressure. By no means. I intended to refer more particularly to portions of lung inclosed in the plethysmograph from which the air had been exhausted. If, as Dr. Campbell fancies, the effect of bronchiolar constriction is to drive the contained air backwards into the alveoli, how is it that the manometer records an increase of pressure? The vagus acts chiefly on the smallest bronchioles and what may be termed the air wave in lung contraction travels from within outwards. If, on the other hand, the air were driven inwards, not only would there be no rise of pressure but the total lung volume would remain constant for the time being. As the reverse of both these conditions occurs the hypothesis of an alveolar inflation is insusceptible of serious consideration. Even clinical observation proves that sudden obstruction of a bronchus causes collapse of the pertaining lung territory. Finally, the question is put, Could a vagus stimulation produce a pulmonary contraction sufficient to cause a darkening (i.e., diminished brightness) in the fluoroscopic field and a dulling of the percussion note?

I answer, certainly. In the latter case it is only necessary to recall the fact that in the normal lung the percussion note at the end of expiration is less resonant than that yielded at the end of inspiration.

I am, Sirs, yours faithfully,

Henrietta-street, W., Jan. 15th, 1904. A. G. AULD.

*** In closing this correspondence last week we offered Dr. Auld an opportunity of reply of which by an oversight he did not avail himself. This correspondence must now cease.—ED. L.

PROFESSIONAL ETHICS.

To the Editors of THE LANCET.

SIRS,—I inclose the facts of a recent incident that occurred in my practice in the hope that you will publish them, with comments, if you think it desirable. I can vouch for the truth of every word of the statement and can only add that in my judgment many offences "infamous in a professional sense" are paltry compared with this exhibition of greed and lack of professional honour.

I am, Sirs, yours faithfully,

Jan. 10th, 1904. F.R.C.S.

P.S.—I inclose my card.

[ENCLOSURE.]

A patient, living about 20 miles from London, was recently found by his medical adviser to be suffering from prostatic calculus: a uric acid stone having become impacted in the prostatic urethra. Efforts were first made, as the stone was not supposed to be large, to dissolve it sufficiently to pass per urethram. These efforts failing it was decided to consult a London specialist, and accordingly the practitioner wrote a careful history of the case to the selected man and arranged an appointment. The specialist confirmed the diagnosis, alleging great danger in delay, telling him that his doctor had acted wrongly in his treatment and urging him immediately to submit himself to operation.

It was ultimately settled that he should go into a public hospital, to which the specialist was attached, on the following day in order that it might be done. In consideration of this the patient—with a considerable family, and living in a house of about £35 per annum rental value—was induced to promise to send that same night to the specialist a fee of 20 guineas over and above the two-guinea consulting fee. But he was carefully enjoined not to tell his doctor or anyone else of this transaction. He returned home that afternoon, calling upon his medical adviser on the way with a message from the "consultant" that he was too busy to write anything about the case, and stating that there was a "great big stone" which ought never to have been left so long.

Early the following morning he sent an urgent message to his doctor to the effect that he could not pass his water and on the doctor's arrival the stone had been happily passed; it was of the shape of a small sparrow's egg and measured five-eighths of an inch in length and one inch in girth at its middle—that is to say, its largest transverse diameter was about one-twenty-fourth of an inch more than that of a No. 12 catheter: it weighed 14 grains nearly when dry and showed ample appearance of superficial disintegration as a result of the efforts to dissolve it. The necessity for the operation having passed the patient began to feel anxious about his 20 guineas which he had duly sent off the previous night and only on that account did he divulge the fact of the payment.

It is well to be able to record that he got it back, but the medical practitioner did not receive a single word of advice or any report of the case from the consultant whom he had approached for help and guidance. The patient, however, received a letter returning his cheque and containing instructions to the effect that should any bleeding or dysuria occur he had better go up to the specialist at once!

LONDON HOSPITALS AND CENTRAL CONTROL.

To the Editors of THE LANCET.

SIRS,—In the letter which you have already done me the favour to publish upon this subject I did not get beyond the position that some central control of hospitals would almost certainly be advantageous; and I will now, with your permission, approach the manner in which such control might be obtained. The letter of Dr. Lauriston E. Shaw in your issue of Jan. 16th, p. 186, and letters which have appeared in the *Times* from the original writer upon the question, from the Hon. Sydney Holland, and from Mr. Loch, are all of them valuable contributions to the formation of a sound judgment upon a very important but very difficult and complicated problem, and proceed from writers whose opinions are entitled to consideration and respect.

Among these writers there seems to be a general agreement that a useful board of control might be formed by some process of election or nomination from the committees of the great collecting funds and from the governing authorities of the hospitals themselves. Dissent from such a view, resting upon such authority, can only be expressed with diffidence, but the medical profession has now had experience for nearly 50 years of a body constituted in an analogous manner, and the experience cannot be described as encouraging. The General Medical Council is partly composed of members appointed by corporations the proceedings of which it was collectively intended to control, and partly of members nominated by the Crown or elected by the profession. The corporation members have certainly been expected, in addition to their duties on the Council, to take care of the interests of the bodies appointing them; and in this respect they have occupied positions fairly analogous to those which the representatives of hospitals would occupy on the suggested board. The Crown and the elected members have been looked upon somewhat in the light of watchdogs over their colleagues, and have occupied positions fairly analogous to those which the members appointed by the collecting funds would occupy on the suggested board. The efforts of hospital representatives would be primarily directed towards the attainment of the maximum of independence for their several institutions, and towards combination when this independence appeared to them to be in danger; while the efforts of the representatives of the funds would be mainly directed towards the attainment of the largest possible measure of control. The inevitable result would be a deadlock. The General Medical Council, in the 48 years of its existence, has not yet been able to secure the proper preliminary education of medical students; and has lately been so evenly divided upon a crucial question that an appeal to the casting vote of the President was only avoided by the departure of one of the members from the meeting room. The members of the Council are not to blame. There are too many of them, their powers are inadequate to the proper performance of their supposed duties, and some of them are compelled to consider the apparent interests of the corporations which they are collectively intended to control. The proposed hospital board would, in my humble judgment, break down in a precisely similar manner, even apart from the consideration that the election of members by the funds would afford no security that the gentlemen (or ladies) elected had any real knowledge of hospital management or any competence to decide the questions which would be submitted to them. The board would, in my opinion, possess too much of an amateur character, it would of necessity be far too numerous, it would have no continuity of policy, and it would break in pieces under the stress of internal dissension.

It has been suggested, I think by Mr. Sydney Holland, that the Government might with propriety subsidise the hospitals by an augmentation of their revenue from public funds equal in amount to the total of the voluntary contributions; and it has often been suggested that hospitals fulfilling certain conditions of usefulness and efficiency might with propriety be exempted from the payment of local rates. It seems to me that the adoption of one or both of these suggestions is eminently desirable in the interests of the public and that only by adopting one or both of them could control in the public interest be secured without the sacrifice of independence. It is a national scandal that the hospitals receive no subvention, and that the persons able to contribute to their support, but who wholly fail to do so, nevertheless share equally with contributors in the benefits which they confer upon the entire community. Antiseptic surgery is as much at the command of a miser who never gave a shilling to a hospital in his life as it is at that of Mr. Herring himself. I should rejoice to see the miser reached by the tax collector or by the rate-collector, but any notion of direct or complete hospital control by the Government or by a municipality is unthinkable. No one could endure to see St. Bartholomew's reduced to the condition of the War Office, or to see the municipality of Marylebone turn away its attention from electric lighting to the management of the Middlesex Hospital.

The distribution of a Government subvention or the grant of immunity from local rates would require, of course, to be supervised by some competent authority, and would permit the Government of the country to appoint one. It should, I think, be a commission of three persons, comparable to the Charity Commission, and should be a paid body with no other official duties or responsibilities. Its business should be to make itself thoroughly conversant with the management of all hospitals which through their secretaries or committees expressed a desire to participate in the subvention or the immunity which it was the function of the commission to administer, and to lay down the conditions

under which such participation might be obtained. It should have no power of interference where its assistance was not sought, but absolute power of assent or refusal when an application for assistance was made, and in this way I conceive that its influence upon administration would soon become paramount. The commission would be able to use the funds or the immunities at its disposal as levers for the production of necessary reforms; and it would do this without wounding susceptibilities or alienating friends. It might say to a hospital deriving the bulk of its patients from a distance that it should be financially assisted on condition of going to a locality where it was more wanted, and such a decision would be at once a stimulus towards removal and a justification for an appeal for the necessary means. It might say to three or four special hospitals for the same infirmity that their separateness entailed unjustifiable waste of money, and might thus practically force them to combine; and it would be able to offer sufficient inducements for the accomplishment of desirable changes of many other kinds. It might powerfully check recourse to hospitals by persons able to pay for treatment. Its chief distinguishing feature would be that it was composed not of amateurs but of officials whose daily work and duty it would be to probe all questions of hospital administration and government to the bottom and to bring them to the test of well-established principles. There would be no interference with internal management or with individual committees, in a word no objectless or vexatious meddling, but a steady influence making for administration in the best interests of the public and of science, and exerted by men whose *quasi* judicial positions would be a guarantee of their aloofness from personal squabbles or disputes. A hospital which refused to comply with the conditions laid down by such commissioners would at once be placed upon its defence before the public, and would be called upon to satisfy individual supporters, or the distributing committees of the funds, with regard to the justification which might be pleaded for the position it had assumed. Government subvention or assistance may be a long way off, but I think it is certain to come at last and that it ought to be both sought and welcomed. The hospitals constitute a great national interest, to the maintenance of which every citizen ought in some measure to contribute, on which the community is entirely dependent for the advancement of medical and surgical science, for the provision of skilful medical aid either for individuals or for the public services, and even for the counsel which Governments are sometimes driven to seek from the profession, but for which it is their highly moral custom strictly to abstain from payment. Subsidies, scanty indeed, are given to universities, but they are sufficient to establish the principle, and they have shown that such subsidies need in no way interfere with independent management or with natural development. I look forward to a time when hospitals will be similarly assisted; and until that time arrives I do not believe that any useful central control of them will be attained.

I am, Sirs, yours faithfully,

Jan. 19th, 1904. HOSPITAL SURGEON.

THE CHOLERA EPIDEMIC IN SYRIA AND MESOPOTAMIA.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

SINCE the date of my last letter to THE LANCET[1] there has been a serious diffusion of cholera from Syria down the valley of the Euphrates to Mesopotamia and to one at least of the holy burying places of the Shiah sect of the Mos'em religion. At the time I last wrote (August 20th) the outbreak was almost confined to the vilayets of Syria and Aleppo, and the news had been just received of the appearance of the disease at Biredjik on the Euphrates. Absence from Constantinople during the past few months has prevented me hitherto from continuing the story of the epidemic, and I propose to do so now, taking it up from the date of the letter referred to. In the vilayet of Syria cholera remained active throughout the months of August and September, was somewhat less so in October, and by the end of November had almost though not quite disappeared.

[1] THE LANCET, Oct. 10th, 1903, p. 1040.

The following table shows the course of the disease in Damascus, as compiled from the official returns. It is a continuation of the table on p. 1040 of the last volume of THE LANCET.

CHOLERA IN DAMASCUS.

Date.						Cases.	Deaths.
From August 9th	to	August	15th	...	...	68	54
,, ,, 16th	,,	,,	22nd	...	...	104	73
,, ,, 23rd	,,	,,	29th	...	...	76	53
,, ,, 30th	,,	Sept.	5th	...	...	156	89
,, Sept. 6th	,,	,,	12th	...	...	76	64
,, ,, 13th	,,	,,	19th	...	...	92	54
,, ,, 20th	,,	,,	26th	...	...	138	112
,, ,, 27th	,,	Oct.	3rd	...	...	131	110
,, Oct. 4th	,,	,,	10th	...	...	145	101
,, ,, 11th	,,	,,	17th	...	...	67	55
,, ,, 18th	,,	,,	24th	...	...	22	30
,, ,, 25th	,,	,,	31st	...	...	7	3
,, Nov. 1st	,,	Nov.	7th	...	...	2	2

The last case of cholera was believed to have occurred in Damascus on Nov. 5th. The remarkably fluctuating character of the numbers of cases in the above table can scarcely escape notice. The numbers of deaths are more trustworthy and they indicate that the outbreak reached its highest point in the latter half of September and first week of October.

Although cholera was active in many parts of the Aleppo vilayet as early as the second half of July it was not until Sept. 5th that the disease was recognised in Aleppo itself. On that day a youth employed in a pork butcher's shop was found to be suffering from cholera in its severest form. The course of the disease in Aleppo is shown in the following table:—

CHOLERA IN ALEPPO.

Date.						Cases.	Deaths.
From Sept. 4th	to	Sept.	6th	...	...	2	0
,, ,, 7th	,,	,,	13th	...	...	9	7
,, ,, 13th	,,	,,	19th	...	...	37	46
,, ,, 20th	,,	,,	27th	...	...	53	50
,, ,, 28th	,,	Oct.	4th	...	...	36	31
,, Oct. 5th	,,	,,	11th	...	...	44	39
,, ,, 12th	,,	,,	18th	...	...	82	62
,, ,, 19th	,,	,,	25th	...	...	59	61
,, ,, 26th	,,	Nov.	1st	...	...	46	50
,, Nov. 2nd	,,	,,	8th	...	...	16	15
,, ,, 9th	,,	,,	15th	...	...	0	0
		,,	21st	...	...	1	0
From ,, 22nd	,,	,,	29th	...	...	32	22
,, ,, 30th	,,	Dec.	3rd	...	...	15	12
		,,	7th	...	...	0	2

The remarkable lull in the epidemic at Aleppo after the first week of November, and its equally remarkable revival in the third week of that month, have not as yet been satisfactorily explained. The lull is not to be ascribed to the absence of definite news. From Nov. 7th to 21st daily bulletins were received stating positively that there were no cases in that city. But on the 21st one case was reported; on the 24th there were four cases; on the 25th, five cases; on the 26th, seven cases; and on the 27th and 28th respectively, four cases and eight cases. Then the outbreak again subsided. From Dec. 7th to Jan. 5th Aleppo was believed to be free from cholera but on the latter date a single case was observed there.

In the meantime the disease was continuing more or less active in many other places of both the vilayets of Syria and Aleppo. It is scarcely possible, and would perhaps serve no very useful purpose, to trace in detail the course of the epidemic in all the innumerable towns and villages where it has made its appearance. Its course has been irregular and uncertain. It has in many instances disappeared—or has seemed to disappear—from a place only to reappear after a longer or shorter interval. An example of this has just been seen in Aleppo and even more striking instances of the kind might be quoted from the experience of other places. It is worth noting, however, that cholera has now been more or less continuously present in Syria since the end of September, 1902. It has fluctuated from time to time and in February, 1903, it was hoped that it had really disappeared, as for a whole month no cases were officially reported from any town or village in this portion of the Turkish Empire. But the hope was not realised; the disease broke out again as badly as ever and as no fresh importation of infection was ever proved, or even seriously suspected, it is practically certain that the cholera virus has never been absent from those regions for the past 15 months.

Apart from the great and populous centres, such as Damascus and Aleppo, already briefly dealt with, the greatest interest attaches—from the point of view of the defence of Europe against an invasion of the disease—to the behaviour of cholera in the ports of the Syrian littoral. Before turning to this aspect of the question, however, it will be useful to give a summary of the total cases and deaths which have been officially reported from all places in the affected regions since the revival of the epidemic in March last.

STATISTICS OF CHOLERA IN THE TURKISH EMPIRE FROM MARCH, 1903, TO THE END OF THE YEAR.

Date of bulletin.	Cases.	Deaths.
March 24th	28	28
,, 31st	19	21
April 7th	8	13
,, 14th	10	12
,, 21st	6	7
,, 28th	2	4
May 5th	—	—
,, 12th	4	5
,, 19th	3	2
,, 26th	9	7
June 3rd	13	12
,, 10th	27	17
,, 16th	22	15
,, 25rd	121	75
,, 29th	57	62
July 6th	62	69
,, 13th	107	216
,, 20th	234	121
,, 27th	150	113
August 3rd	333	288
,, 10th	1391	1116
,, 17th	472	428
,, 25rd	534	443
,, 31st	279	285
Sept. 7th	237	200
,, 14th	136	117
,, 21st	256	224
,, 28th	351	303
Oct. 5th	392	332
,, 12th	319	236
,, 19th	307	235
,, 26th	163	155
Nov. 2nd	198	176
,, 9th	128	158
,, 16th	116	114
,, 25rd	52	54
,, 30th	89	85
Dec. 7th	37	30
,, 14th	219	196
,, 25rd	541	495
,, 28th	36	44
Jan. 4th, 1904	14	14
Totals	7687	6527

The high figures in the second and third weeks of December were caused by the severe outbreak of cholera in Kerbela to which detailed reference will be made later. The totals in the above table must be regarded, on the evidence of unbiased witnesses, as considerably below the truth. From many places no returns at all have been received and when statistical returns have been received from other places there has frequently been positive proof from collateral sources that these fell considerably short of the actual numbers of cases and deaths. It is difficult to say how far short of the truth the official figures have fallen, but probably a moderate estimate would place the total cholera mortality in the last nine months in the Turkish Empire at not much less than 10,000.

The principal ports on the Syrian coast have suffered less than towns or villages in the interior. In Tripoli cholera was present from July 22nd to Sept. 13th. The following figures for Tripoli are in continuation of those published in my last letter.[2]

Date.	Cases.	Deaths.
From August 16th to August 22nd	29	57
,, ,, 23rd ,, ,, 29th	22	27
,, ,, 30th ,, Sept. 5th	44	4
,, Sept. 6th ,, ,, 13th	6	5

There followed a whole month during which Tripoli was declared day by day to be quite free from cholera but on Oct. 13th five cases with one death were reported to have occurred in the upper portion of the town. The patients were all inhabitants of the town; the first of them was taken ill on the 12th. The source of the infection was at first a mystery but it was subsequently shown that it had been reintroduced to Tripoli by persons coming from the *caza* or district of Akkar, where cholera was then present. From Oct. 13th to 21st 22 cases with 17 deaths were reported. Then the disease again disappeared; but on the 28th a single, imported, fatal case was observed and on Nov. 12th six fresh cases were suddenly reported. From Nov. 12th to 22nd, when cholera disappeared, it is hoped finally, from Tripoli, there were 31 cases and 25 deaths.

In Alexandretta a single imported case of cholera, followed by death, occurred on Sept. 5th. The patient was a camel-driver who had come from the interior. Four more cases occurred on Oct. 12th. While Alexandretta escaped so lightly, cholera caused a considerable mortality in a number of villages in its neighbourhood, and at Payar, on the coast, five fatal cases occurred on Sept. 20th and 21st.

At Beirut only imported cases of cholera have been observed. The two cases brought by refugees from Tripoli on board sailing ships, which occurred in August last, were described in my last letter. Since then two exactly analogous cases have occurred. The first was that of a sailor on a small sailing ship of three tons, called the *Mabruca*, which arrived at Beirut on Oct. 25th. There were only three men on board and one of these was attacked with cholera two days after her arrival and died the same night. She had come from Suédié, where cholera was then present. The second instance occurred on Nov. 6th. The patient was a passenger on another sailing ship of the same name—the *Mabruca*—which had arrived the day before from Arvat, an island near Tripoli. It was from this island that the first imported case of cholera at Beirut in August last had sailed and though the presence of the disease on the island was never proved, it is at least remarkable that later an outbreak of cholera occurred in the Tarsous district, on the mainland but facing the island. The disease appeared there early in November but the extent of the outbreak was not known.

At Caiffa (or Haifa) three fatal cases occurred in one house on Oct. 25th. From that date to Nov. 17th 15 cases and 12 deaths were recorded there. At Latakia cholera did not make its appearance until so late as Dec. 21st. Between that date and the 29th of the month ten cases with seven deaths were reported to have occurred there.

It will be seen from the above brief summary that, as already stated, the Syrian coast ports have escaped with comparatively light visitations of cholera, while in the interior that disease has been causing very serious ravages. I propose now rapidly to trace the course of the epidemic northwards and eastwards.

Throughout the latter half of the year just ended, while there have been a considerable number of infected centres in the vilayet of Syria proper, it has been in the more northerly vilayet of Aleppo that the disease has been most active. At Antioch cholera was first detected on Sept. 16th. The recorded mortality was never very high there. The deaths in Antioch in the successive weekly bulletins, beginning with the week ending Sept. 21st, have been as follows: 3, 9, 8, 12, 10, 15, 50, 7, 6, and 8. The highest figure fell in the week ending Nov. 2nd and the last recorded case was on Dec. 7th. Two days later than the appearance of cholera at Antioch it was reported from Aintab, an important town some 60 miles to the north of Aleppo. From Sept. 23rd to 27th there were 17 cases and eight deaths there. Then followed in successive weeks 24 deaths, 14, 6, 4, 4, none, 2, none, none, and 1 death respectively.

The outbreak of cholera at Biredjik, on the Euphrates, was mentioned in the postscript to my last letter. The fear there expressed that the disease would spread thence to Armenia and Mesopotamia has been unfortunately realised. The first cases occurred in Biredjik on August 16th; the week of highest mortality was that ending on Sept. 19th, when 19 deaths were reported. Cholera appeared at Orfa (or Urfa) on August 22nd. Orfa is in Mesopotamia and about as far to the east of Biredjik as Biredjik is of Aintab. The numbers of cases and deaths in Orfa in successive weekly bulletins have been as follows: 14 cases and six deaths in the week ending August 31st; then in the subsequent weeks 12 and 12, 8 and 4, 12 and 14, 33 and 25, 31 and 30, 24 and 21, 42 and 29, 21 and 15, 12 and 17, 4 and 2, and 5 and 5 respectively. The last known case of

[2] THE LANCET, Oct. 10th, 1903, p. 1042.

cholera occurred in Orfa on Nov. 7th. In all not far short of 200 deaths were recorded there; the last group of five cases and five deaths occurred among nomad tribes encamped in the neighbourhood.

From Orfa or Biredjik cholera has spread on the one hand northwards and eastwards to the important town of Diarbekir and southwards along the Euphrates to Anah, Kerbela, and Bagdad. Although the appearance of the disease in Diarbekir was somewhat later than in the other places named it may be most conveniently considered first. There is, indeed, evidence that though unrecognised by the local authorities, cholera was present in Diarbekir as early as September and therefore considerably before it was believed to have spread down the Euphrates. The first official news of its appearance in or near Diarbekir was received on Nov. 20th, when it was reported that about a fortnight before the disease had appeared in the village of Habeeh, some 15 miles away, and that 35 cases with 20 deaths had occurred there. Consular reports confirm this outbreak and state that the village is named Habeshi, that it is inhabited by Kurds, and that cholera was taken there by some camel-drivers from Aintab. One of the camel-drivers died, the corpse was stripped, as part of the funeral rites, the clothes were distributed, and the epidemic followed. The course of the disease in Diarbekir itself is uncertain. Consular reports state that it broke out there in September when it caused 16 deaths, six of which occurred in the American orphanage and two in the barracks. The local authorities refused to admit that the disease was cholera and no mention of this outbreak has been made in the telegrams to the Sanitary Administration in Constantinople. That administration has no permanent medical officer in Diarbekir but an officer sent there on special mission reported on Nov. 18th that on that date three soldiers had been admitted to hospital suffering from cholera. Two of these died. Then for three weeks there were said to have been no more cases. But on Dec. 15th four fresh cases were reported and on the 17th there were as many as 29 cases and ten deaths. This was a short but sharp outbreak. It lasted just one week, during which 54 cases with 32 deaths were reported. On one or two days no reports were received, so that the true figures were probably higher.

The first town of importance on the Euphrates below Biredjik where cholera is known to have made its appearance is Anah. This is a town of some size situated between 250 and 300 miles below Biredjik. Four cases of cholera were detected there on Oct. 29th. It was subsequently ascertained that among a group of persons who had come by raft from Biredjik to Anah a death had occurred and that the body had been buried at Anah. The first recognised case of cholera occurred there in a house adjoining the place where the body had been buried and the disease spread thence through the town. The following are the numbers of cases and deaths reported from Anah:—

Date.	Cases.	Deaths.
From Oct. 29th to Nov. 2nd	51	93
,, Nov. 3rd ,, ,, 7th	76	80
,, ,, 8th ,, ,, 10th	28	25
,, ,, 11th ,, ,, 17th	51	56
,, ,, 18th ,, ,, 19th	16	12
,, ,, 20th ,, ,, 27th	12	11
,, ,, 28th ,, Dec. 3rd	2	1

Since the last date named no positive news has been received from Anah, but at Rava, to the north and on the opposite bank of the river, a fatal case occurred on Dec. 23rd and another on the 24th.

Of far more serious import was the outbreak of cholera at Kerbela, one of the holy places of the Shiah sect of Moslems. Kerbela is situated on a branch of the Hindieh Canal, some distance to the west of the Euphrates, and between latitude 32 and 33 north. With Nedjef it constitutes the great object of pilgrimage of the Shiahs, who flock there in enormous numbers during their life and whose one hope is to be buried there after their death. The town of Kerbela is one vast cemetery, or to be more accurate, a vast network of underground vaults in which the bodies are deposited in their coffins, not buried in the earth. The corpses are brought from all parts of the Mahomedan world but principally from Persia and India. The law requires that death shall have taken place at least three years before the body is buried here but the law is constantly evaded and corpses are brought for burial in every stage of decomposition. The first news of the appearance of cholera in Kerbela was received on Dec. 11th. Five cases had then been observed. On the 12th there were 46 deaths and on the 13th as many as 84. The outbreak was believed to have come to an end on the 23rd of the month. The numbers of cases are not accurately known but the number of deaths officially reported exceeded 600. Among the measures taken to control the outbreak was the prohibition for both pilgrims and corpses to enter Kerbela and all communication with Nedjef was cut off. Fortunately, the disease did not appear in the latter and last week, in view of the accumulation of pilgrims in Nedjef and the fear that they might become uncontrollable and force the cordon, it was decided to allow the flow of pilgrims (but not of corpses) towards Kerbela to begin again. They are permitted to go there, however, only in groups of 200 at a time.

In the immediate neighbourhood of Kerbela cholera has attacked a few persons at Hindieh. At Musseyib, on the right bank of the Euphrates and considerably to the north of Kerbela, seven deaths from the disease occurred on Dec. 16th among persons detained in the lazaret there. Cases began to be observed in the town about the same time. 3000 pilgrims were reported to be collected on the opposite bank of the river and a few cases occurred amongst them. The later news from Musseyib has been very incomplete and there is positive evidence that many cases have occurred there which have not been reported.

On Dec. 26th it was reported that a suspicious disease had appeared in Mossul, on the Tigris, about half way between Bagdad and Diarbekir. On the 28th nine cases—all fatal—of this disease were stated to have occurred. On Jan. 1st another fatal case was reported and it was admitted that the disease was cholera. The only news since received from Mossul is that no fresh case has occurred there "since Jan. 6th."

Bagdad appears to have been infected with cholera at least since Dec. 31st and probably longer. On that date the sanitary authority reported having seen a case indistinguishable from true cholera and added that other practitioners in the town had seen similar cases during the preceding eight days. On Jan. 7th it was reported that this case had died and that there were persistent rumours in the town that several deaths from a similar disease had occurred and the bodies been secretly buried.

The cholera epidemic as a whole is probably now at its lowest point. Yet there is constantly recurring evidence that the infection is still widely present. The vilayets both of Syria and Aleppo and the valleys both of the Tigris and Euphrates are more or less infected throughout. A serious revival and extension of the disease in the spring are almost inevitable. Fortunately the Hedjaz is, so far as is known, quite free from it and it may be hoped that this year's pilgrimage will escape without an outbreak of cholera.

Constantinople, Jan. 12th.

LATIN-AMERICAN CONGRESS OF MEDICINE AND HYGIENE.

(FROM OUR BUENOS AYRES CORRESPONDENT.)

THE Second Latin-American Medical Congress will be held at Buenos Ayres in April next. It will be opened on April 3rd and will close on the 10th as regards the Medical Congress, but the Exhibition of Hygiene, which is to be inaugurated at the same time, will remain open until May 30th.

The first Congress, which was held in 1901 and was reported in our columns, was a great success and the second Congress, judging from the preparations which are being made and the number of adherents who have registered, promises to be even a greater success. Over 300 Argentine medical men and sanitary engineers have sent in their names and the delegates from the other South American republics will probably number over 100, such distant places as Ecuador, Honduras, Colombia, and Mexico being well represented. The city of Buenos Ayres, from its great size, wealth, commercial and scientific activity, and its high reputation for lavish hospitality, is well adapted for a big congress, and no European scientific man who thinks of going there need fear any such want of organisation as was evident at Madrid last year. The Exhibition of Hygiene is

a new feature and promises to be an interesting and valuable addition.

Of all Latin cities, not even excepting Paris, Rome, and Madrid, Buenos Ayres is easily foremost in matters hygienic. The huge drainage and water systems have been carefully planned and carried out by eminent English engineers and contractors at enormous expense, while the cleaning of the streets and the regulations for markets, lodging-houses, traffic, ambulance first aid, vaccination, compulsory notification of diseases (including tuberculosis), &c., have all been based by the municipality on the best systems at work at present in London, Paris, and Berlin. Not having any national tradition to keep up and not being hampered at every step by a fatherly Parliament, the municipality, aided by the advice of the National Council of Hygiene (Local Government Board), plans and orders the construction of houses and regulates the life of the individual. The opening of an Exhibition of Hygiene in such a city will, of course, be of great interest and value to the other and smaller South American States.

The following is a list of the principal medical communications already promised and some of which have been sent in, those marked with an asterisk promising to be of special interest:—A Study of the Different Systems for the Sanitation of Cities, Dr. Aragon (Mexico); the Utility of Studying Medical Technicality with the View to Forming a Permanent Committee for its Study and Application, Dr. Terry (Mexico); Extra-Uterine Pregnancies, Dr. Correa (Chile); Operations for Cancer of the Uterus, Chile, Dr. Kosner; *Analytical Study of Parturition and the Fœtus in Chile, Dr. Oliva; Urgent Surgical Interference in Grave Injuries and *The Surgical Complications of Dental Caries, Dr. Bazterrica (Chile); *Climatology and Demography of the Magellan Straits, Dr. Avaria (Sandy Point); *Twenty Years of Clinical Statistics in Eye Diseases, Chile, Dr. Clenfuegos; *Bubonic Pest in Chile, Dr. Cadiz; *Epidural Injections in Certain Urinary Diseases, Chile, Dr. Monteso (Chile); Differential Diagnosis of the Various Intra-abdominal Murmurs, Dr. Cadiz (Chile); Dementia (Precocious), Dr. Etchepare (Montevideo); Hydatid Cysts, Dr. Oliver (Montevideo); *Etiology, Clinical Forms and Geographical Distribution of Leprosy in America, Dr. Foreati (Montevideo); Tuberculin as a Method of Diagnosis in the Tuberculosis of Children, Dr Martirene (Montevideo); Biliary Lithiasis and its Complications, Dr. Poney (Montevideo); *Propagation to Man of Certain Parasitic Diseases, not Microbic, existing in South American Cattle, Dr. Berger; *International Prophylaxis of Yellow Fever, Dr. Lacerda (Rio de Janeiro); *Progress in Public Sanitation in Latin America, Dr. Sosa (Lima); *International Prophylaxis of Plague, Dr. del Rio (Chile); *The Results of the Compulsory Notification of Transmissible Diseases in Latin America, Dr. Canabal (Montevideo); *The Epidemiology of Malaria in the Argentine Republic, Types of Malaria Parasites, Parasites antagonistic to Quinine, The Problem of Di-infection of the Blood in Malaria, Dr. Delfino (Rome); *Hydatid Cysts in the Argentine Republic, Dr. A. Vega; *Frequency of Cancer in America, Dr. Bunge; *Infantile Tuberculosis in America, Dr. Araoz Alfaro; *Leprosy in America, Dr. Farini; *Yellow Fever, Dr. Penna; Carbuncle (Anthrax), Dr. Mendez; Framboesia, Yaws, &c., Etiology, Forms, and Geographical Distribution, Dr. Sommer; *Alcoholic Mania in America, Dr. Cabred; besides communications on Actinomycosis in the Argentine Republic, Malignant Early Syphilis, Malignant Neoplasms of the Skin, *Infantile Feeding in Relation to Rickets and Warloff's Disease in America, Physiology of Physical Exercise, Physiological Pathology of Tremors, *Penetrating Wounds of the Chest, Treatment of Prostatic Hypertrophies, Pelvic Suppurations, &c.

The subjects chosen for open discussion are very interesting and are as follows: (1) Causes of Deaf-mutism in the Argentine Republic; (2) Prevention of Blindness; (3) the Etiology of Goitre; (4) X Rays in Surgery; (5) Distocia in the Argentine Republic; (6) Hæmatology in Surgery; (7) Strictures of the Urethra; (8) Surgical Interference in Exophthalmic Goitre; (9) Treatment of Cancer; (10) Treatment of Laryngeal Tuberculosis; (11) Treatment of Tuberculosis of the Eye; and (12) Biliary Lithiasis and its Complications.

It will thus be seen that important papers will be read on yellow fever, plague, malaria, leprosy, tuberculosis, sanitation of cities, cancer, hydatid cysts, actinomycosis, and climatology, so that our knowledge of the above diseases as existing in tropical and semi-tropical countries should be correspondingly increased.

The Exhibition of Hygiene will be very complete in maps, drawings, models, and statistics. The official language is Spanish but French is well understood by all the educated people. All the steamer lines from Europe offer reductions of 30 per cent. on return tickets. April will be autumn in the Argentine Republic and the season favourable, but the harvest being over visitors will not be able to see the hundreds of square miles of wheat, maize, and flax which are one of the wonders of that land but they will be able to see thousands of sheep and cattle frozen daily in Buenos Ayres for export to Europe.

MALAGA AS A WINTER RESORT.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

GIBRALTAR direct by steamer from England can now be reached within four days. From Gibraltar the ferry-boat conveys passengers to the Algeciras station in half an hour. Here a line, recently built by English engineers, connects with the main lines at Bobadilla Junction, where there is a good buffet and lunch can be obtained before taking the train for Malaga. It is, however, better to sleep at Algeciras. There are two very good hotels and by taking the early train Malaga can be reached in the afternoon after a daylight journey through some of the most romantic and beautiful mountain scenery of Andalusia. Indeed, the line from Bobadilla to Malaga traverses the Switzerland of Spain; it also enables the traveller to appreciate the mighty mass of mountains that shelter Malaga from the northerly winds. Thus it is that at Malaga, as on the French and Italian Rivieras, the vegetation is that of countries of more southern latitudes. After passing through 11 tunnels the wonderful and wild gorges of the Hoyo, which in Spanish means a hole or pit, the train descends into the fruitful *vega de Malaga*. Here the figs ripen early in June. The sugar-cane and the cotton plant thrive and also the sweet potato (*batatas*) and the custard-apple (*anona cherimolia*). Of course the melon, the pomegranate, the Japanese medlar, the prickly pear, the olive, the orange, and the lemon all ripen luxuriantly round and about Malaga but these sub-tropical fruits also abound further north on the French and Italian Rivieras. Malaga being much more to the south ought to, and does, possess a vegetation that cannot be found even in the most favoured spots of the Riviera. There is consequently a distinct climatic difference and this, in certain cases, may afford an advantage over the ordinary and nearer winter resorts. The principal obstacle is the overland journey through the whole length of both France and Spain which is a very irksome undertaking. Of course, it is pleasant enough for those who can afford to travel by short stages, as there are many towns of great interest to be visited on the road. This, however, would hardly suit a patient whose chief object is to obtain, with as little fatigue and effort as possible, a complete change of climate. On the other hand, those who can stand the sea are likely to benefit by the rest and luxurious comfort of the manificent steamers that stop at Gibraltar on their way from England to the far East. As already pointed out, the journey from Gibraltar to Malaga is not long and can be accomplished by daylight.

It is perhaps scarcely necessary to expatiate on the merits of the climate of Malaga. The Malaga muscatel raisins that adorn our Christmas dessert are in themselves a sufficient witness. The proximity of the sea mitigates the extreme heat, while its southerly position and the shelter of the mountains prevent the advent of cold weather. Thus snow and frost are almost unknown and the thermometer, even on wintry nights, rarely falls below 50° F. Then there is hardly any rain. On an average rain does not fall on more than 30 days in the year and it only lasts for a few hours. But there are exceptions and then damage is done by an excessive downpour. The one thing to be feared is a land wind called the *tarral*. From the heated plains of the interior it produces in summer excessive and unpleasant dryness, while in winter it brings cold from the snow clad sierras. This wind, however, never lasts long and constitutes about the only fault that can be found with the climate of Malaga. Invalids are obliged to keep indoors when the *tarral* is

blowing. It comes from the north-west and descends the Sierra de Abdalajis through the Hoyo, following the course of the railway line—in other words, it is the *mistral* of the Spanish Riviera. But just as on the French Riviera there are chosen spots that are almost completely sheltered from the *mistral*, so there must be eligible sites near Malaga that are equally protected from the *tarral*.

Unfortunately the excellence of climate is not the only thing needed. The effects of the best of climates can be destroyed by bad hygiene and the death-rate at Malaga is appallingly high if we look only at the figures given. To speak of Malaga as a health resort when there is a death-rate of about 38 per 1000 per annum of the population seems like a misuse of terms. Yet it would be a mistake to consider that these statistics proportionately affect the class of patients likely to go to Malaga from England. There are certain things in the sanitation of a town that concern all alike, whether rich or poor, such, for instance, as the water-supply. Now Malaga has a very good water-supply. English and French capitalists and engineers contrived to surmount many and manifold difficulties and finally succeeded in installing extensive waterworks. The waters of the Torre Molinos were covered over at their source and taken to Malaga in large iron pipes. Thus pure water is delivered at the doors of the houses. It is true that for a considerable time private wells were allowed to subsist and these were dangerous, but since the great cholera epidemic of 1885 they have been closed. Now the only danger in regard to the water-supply is that it may get contaminated when inside the house. There are small cisterns still used within the houses and these may be dirty; mice and other animals may fall into them. But the same objection can be made to the London water-supply, for in many parts of the metropolis the old and more or less dangerous intermittent supply with cisterns still exists.

The drainage of Malaga is certainly in a very defective condition. The sewers have in many cases insufficient fall and there are no good means of flushing them, so that deposits causing effluvia abound. It is only in some houses that the closets communicating with these sewers are efficiently trapped. Nevertheless, the desire to have proper sanitary closets is growing and they are now much more general than they were a few years ago. The municipality is unfortunately very much in debt, so that it would be difficult to carry out a comprehensive scheme of drainage. Still some progress has been accomplished. For instance, many of the small streets have been covered over with asphalt. These thoroughfares abutting on the most fashionable and best streets were a great nuisance. The ground was sodden with every sort of filth and garbage. Even energetic scavenging could not really clean these places for the moist soil retained the worst part of the dirt. Now all is covered over with impervious asphalt, so that any rubbish can be effectively swept and washed away and there is no infiltration into the subsoil. But by far the greatest improvement, and this was a gigantic undertaking, has been the construction of the new harbour. A large amount of foreshore has been reclaimed and a sea wall has been built so far forward that the ships, instead of riding at anchor, can now come alongside. When the water came far up into the land the deep parts were at a considerable distance from the shore and it was in this shallow water that the town drains emptied the sewage. The main outfall now passes close to, but outside, the sea wall or breakwater to the south-east. Here a part of the channel is not covered over and therefore there are many bad odours. The outfall itself also does not go right out to sea. Indeed it is in an unfinished state and this work should be completed at once. It is quite evident, however, that the importance of such questions is not appreciated or this unfinished outfall would not have been allowed to remain in its present nuisance-creating condition and this too for a considerable time. What is better understood is the building of modern broad streets with fine, though commonplace, modern houses on each side and the laying-out of public gardens. The prolongation of the Alameda to the new port, when the trees, the palms, and the other plants have had time to grow, will constitute one of the broadest, most handsome, and most picturesque sea fronts in existence. But here again the principal attraction is not appreciated. On one side there are the port, the shipping, and the sea. These are all interesting and beautiful but other and very fine ports and moles and piers can be seen elsewhere The view, for instance, from the Cannebière at Marseilles down into the old port, with its shipping, its many small levantine sails below, the white seagulls flying against the blue sky above, the old forts at the entrance of the antique, historic harbour, and the magnificence of the open Mediterranean beyond constitute a picture which the new port of Malaga cannot equal.

Malaga: View inland from the prolongation of the Alameda to the new port.

On the other hand, if the visitor turns his back to the sea and from one of the Malaga breakwaters or from the new prolongation of the Alameda looks inland, a view will be obtained that is unique. Covering the dome-shaped hill to his right are still standing the grim battlements of the Castillo de Gibralfaro. At a lower level and rising above the surrounding houses are some formidable Moorish towers. These are the remains of the palace fortress called the Alcazaba and it is connected with the Gibralfaro by double walls. Here was the settlement of the early

Phœnicians and here the Moors built dwellings of strength and beauty that date back to the twelfth century. In spite of the unpardonable vandalism of the Spaniards mighty ruins still remain and they constitute the most precious heirlooms which Malaga possesses. These Moorish walls and defences extend down to the very Alameda itself and were formerly washed by the sea. Every effort should be made to preserve such picturesque ruins. Marseilles, in spite of the glories of its Cannebière, has nothing like this to show. It has no splendid horseshoe arches still bearing the motto and shield of the Nasrides dynasty: "There is no conqueror save God." But instead of preserving this historical quarter new houses have been built into the old Moorish walls. Other houses are deserted and allowed to fall into ruins. The poorest people have gone to live in the abandoned quarter and there are scenes of squalor and much dirt on all sides. Yet these hills should be one of the chief attractions of Malaga. Rubbish should be cleared away, the best parts of the ruins well exposed, flower-beds planted near, and the whole quarter converted into a promenade after the fashion of the Alhambra at Granada. Here are ruins of real interest to the historian, the archæologist, the architect, the artist, and the ordinary tourist who can appreciate the beautiful and the romantic. They are priceless; all the money in the world could not reconstitute the history represented by these time- and war-worn battlements, but a comparatively small sum would suffice to preserve them. If they were rendered accessible to visitors, if their history was revived, and interest awakened the increase in the number of tourists passing through Malaga would soon pay for the small cost incurred. But this is not in the least understood and most of the town people very much prefer building ugly modern houses to preserving these most picturesque ruins. Yet they should bear in mind that there are no attractions in the town of Malaga. There is nothing to see. Had the Moorish mosque been preserved that would doubtless have brought many visitors, but the cathedral built on its site is a nondescript building principally remarkable for its size. The old Alameda is certainly a spendid thoroughfare and promenade, but its beauty is due to its many trees rather than to the buildings on either side.

It is the country around rather than the town itself which constitutes the chief charm of Malaga. The semi-circle of mountains that spread out fan-like to shelter Malaga is about 50 miles in length. On the offshoots of these mountains and close to the seashore there are suburban districts which will doubtless constitute the health resorts of the future. Already a tram-line follows the coast far beyond the town. Here a hotel has been built for those who wish to live well away from the town. It overlooks the sea and on the other side there is a plain sheltered by mountains. All along this road there is a succession of fine views, and at some distance can be seen the hill from which Malaga derives its excellent water-supply. This is important, for it means that good water can be delivered to all the houses that are gradually springing up on this coast-line. At present there is plenty of space here. Of course, there are no sewers but there is open country and there is room for cesspools to be built well away from the houses; in any case, it is virgin soil that has not been polluted by previous occupants; indeed, in many places the sea used to come up the hillside and there was no place whatsoever for building. Other parts which used to be safe have now to be protected by sea walls. The fact is that something like half a mountain has been blown up and the material carted away to build the new port. The jutting out into the sea of the artificial breakwater has caused a swirl and backwash which have attacked some parts of the coast that used to be safe. In course of time a railway will supplement the present tramway communications, so that there will be a seaside country district created within easy reach of the town. As all the villas built there, or likely to be built, are beyond the town *octroi* or dues the cost of living will be cheaper.

Nevertheless, the town itself is the real centre and its sanitation must be improved. Dr. Don Ramón Martin Gil has proposed that sea water should be pumped to the top of the castle hill and from there used to flush the sewers. But then there are 95 streets that have no sewers whatsoever. In some places there still remain cesspools that are very porous and which allow the surrounding subsoil to be contaminated, but the inhabitants for the most part ignore these facts or altogether fail to appreciate their importance. A branch of the Spanish Society of Hygiene has been established at Malaga and it should do something towards educating public opinion in regard to sanitation. In conversation with one of the leading members of this society he urged in mitigation of the present state of affairs that the statistics were not to be relied upon. The deaths were accurately recorded but there was every advantage in not registering the births, especially of male children. First baptism costs money and that at least was saved. But the great advantage is that if the existence of the child remained unrecorded he would in all probability escape military service. If the full number of births were registered the proportionate death-rate would not appear so high. Still it was very high, particularly among the children of women who worked in factories. Undoubtedly compulsory registration should be enforced. But all these imperfections and the greatest possible ignorance and indolence cannot alter the wonderful climate prevailing on this coast line. The sanitary defects of the town can be avoided by living outside, as Mr. Clarence Visick, the local British practising physician, generally recommends. Then for shopping and social purposes the new streets of Malaga and the newly paved old streets are all clean and as free from unpleasantness as in most fairly well-ordered towns. There are also some excellent and very clean hotels with the usual moderate charges that obtain in the provincial towns of Spain. So that altogether the invalid wintering at Malaga may rely on being able to enjoy the benefits of the climate while insuring but a minimum of risk in regard to defective sanitation if he selects with some judiciousness his place of residence.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Demolition of Insanitary Areas in Liverpool: No Small-pox.

THERE were 378 deaths during the week ended Jan. 9th, being equivalent to an annual mortality of 27·1 per 1000. The number of deaths above the corresponding week of last year (when the rate of annual mortality was 23·9 per 1000) was 48. The increased rate of mortality was due to the insanitary condition of a number of courts in the slums, the death-rate in which varied from 63 to 83 per 1000. Through the instrumentality of Dr. E. W. Hope, the medical officer of health, the health committee has already accomplished the demolition of large areas of insanitary property where sickness and mortality were excessive, and he is now energetically urging the demolition of the above-named insanitary dwellings. This insanitary property, as pointed out by Dr. Hope at the meeting of the health committee, is an unfortunate legacy of by-gone years and the city council had sanctioned a policy by which so many of the houses in question should be dealt with annually. If the requisite number were reached, as might reasonably be expected, they would within a fairly short time rid the city of those excessively insanitary blocks. The *Liverpool Daily Post* of Jan. 16th finds fault with the health committee and the housing committee for not being more alive to the necessity of more prompt action in the matter of demolition. Dr. Hope is, however, assured that the housing committee will effectually grapple with the difficulty. The city is once more free from small-pox.

University of Liverpool: Corporate Grant.

The finance committee of the city council has received an influential deputation representing the University in respect to the proposal that the city council should give financial assistance to the University. The deputation consisted of the Chancellor (the Earl of Derby, K.G.), Vice-Chancellor A. W. W. Dale, Sir John Brunner, M.P., and others. The Chancellor presented a memorial from the University praying for a grant in aid and each member of the deputation addressed the committee in support of it. The finance committee considered the subject after the deputation had withdrawn and eventually came to the unanimous decision to recommend the city council to grant the sum of £10,000 to the University during the year 1904, such sum to be paid out of the city rate.

Midwives Act, 1902: Recognition of the Liverpool Ladies' Charity.

Under powers given to it the Central Midwives Board has

accepted the certificates issued by the Liverpool Ladies' Charity and Lying-in Hospital as qualifying the holder to be registered under the Act, and applications are being received for registration by the medical officer of health at the municipal offices, Liverpool. The Central Board has now taken a further step and has intimated to the board of management of the Ladies' Charity and Lying-in Hospital that the charity has been placed upon the list of institutions approved by it for the purpose of training pupils for qualification as midwives under the Act. The various committees of the charity are doing all in their power to take advantage of the privileges thus conferred upon them for the benefit of such persons as desire to devote themselves to the calling of a midwife.

Hospital Sunday Collection: A General Decrease.

The annual collections in aid of the medical charities were taken in the various places of worship on Jan. 10th. Unfortunately the weather in the early forenoon was raw and wet and the church attendances suffered considerably. To this cause must be attributed the general falling off in the amounts received. Very few places of worship, indeed, show an increase. The Ullet-road Unitarian Chapel, which generally heads the list, was £60 short of last year's collection. Altogether the prospects of reaching last year's general collection are far from promising. Repeated protests have appeared in the local papers against taking the collection in the winter but the committee of the fund has given some valid reasons in favour of taking the collections early in the year.

Southport's Low Death-rate.

The medical officer of health of Southport reports that during the past year the death-rate of Southport was 14·65 per 1000 of the inhabitants, as compared with 15 32 in the previous 12 months. This rate is the lowest in the history of the borough. The purely local death-rate (excluding bad lives imported) was 12·92 per 1000, as against 13·20 per 1000 last year. The zymotic death-rate was 0·98 per 1000. This is a slight increase compared with the previous year, when the rate was 0·64 per 1000, but that figure was the lowest previously attained. Of the deaths 286 were those of people aged 60 years and upwards. The estimated population of Southport is now 48,000, though the Registrar-General places the population at a higher number. The birth-rate was 18 45 per 1000.

Jan. 19th.

WALES AND WESTERN COUNTIES NOTES

(FROM OUR OWN CORRESPONDENTS.)

Proposed Reduction of the Salary of a Medical Officer of Health.

THE corporation of Aberavon, a Glamorganshire borough with a population of about 8000 persons, has suddenly shown a desire to curtail the expenditure of the town and as a first step has decided to reduce the salaries of the corporation officials, including the town clerk, the borough surveyor, the gas manager, the sanitary inspector, and the medical officer of health. This last-named official is Dr. J. Arnalt Jones who has been the medical officer of health for many years and receives a salary of £50 per annum, one half of this amount being refunded to the borough by the county council. At the meeting of the corporation at which these wholesale reductions were decided upon it was stated that last year there was paid as notification fees to the local medical practitioners no less a sum than £47 17*s.*, which means that more than 380 cases of notifiable diseases must have occurred during the year in this small town which does not contain 1500 houses. About £20 of this sum was paid to the medical officer of health and several members of the corporation appear to consider that this was equivalent to an increase in his salary and a motion was accordingly proposed and carried that he be paid as medical officer of health £30 per annum, which sum should include his fees for notification certificates. In the very improbable event of this proposal receiving the sanction of the Local Government Board the Aberavon corporation would be paying no salary at all to their medical officer of health, for one half of the £30 would be paid by the county council and the other half would not equal the sum to which he would be entitled under the provisions of the Infectious Disease Notification Acts, always supposing that there was no considerable decrease in the number of cases of notifiable disease within the borough. Taking the county of Glamorganshire as a whole the salaries paid to the medical officers of health in the small towns and in the rural districts are distinctly below the average salaries paid in other counties of England and Wales.

A New Name for Workhouses.

There is a very creditable desire upon the part of many members of boards of guardians to reduce as far as possible any stigma which may be supposed to attach to residence in a workhouse. More than one board has made an unsuccessful attempt to designate its workhouse as an ordinary dwelling-house by a number and the name of the street or road in which it is situated, more especially for the purpose of entries in birth certificates, and quite recently the Pontypridd board resolved to call its new workhouse in the Rhondda valley the "Rhondda Homes" and the Cardiff board proposed to call its auxiliary workhouse at Ely the "Ely Rest." The Local Government Board, however, insists that the name of the institutions shall in some way convey the idea of relief. In order, therefore, to meet the views of the latter body the institutions referred to will be known officially as workhouses, but the boards of guardians when speaking of them will call them by the names which they consider to be more appropriate.

Death of Mr. Edward Charles Garland, M.R.C.S. Eng., L.R.C.P. Edin.

Mr. E. C. Garland, who died at Yeovil on Jan. 11th at the age of 69 years, was one of the oldest and most respected practitioners in Somersetshire. He was elected medical officer of health of Yeovil in 1872 and has been re-elected year by year since that date. A serious outbreak of scarlet fever in the borough during the autumn of last year threw upon him a great deal of extra labour, for he was especially interested in his public health work, and although he took a short holiday the strain of the epidemic appears to have affected him seriously. During the past few years Mr. Garland gradually relinquished private practice, devoting himself to the duties of medical officer of health and certifying factory surgeon. At the time of his death he was senior medical officer to the Yeovil district hospital and dispensary and medical referee under the Workmen's Compensation Act. Some articles from his pen have appeared in THE LANCET, the first of them being an account of a case of placenta prævia published in 1858. He leaves a widow, a daughter, and a son who is the Recorder of Winchester.

The Midwives Act.

The Gloucestershire county council has appointed Dr. J. Middleton Martin, the county medical officer of health and the medical officer of health of the Stroud urban and rural districts, executive officer under the Midwives Act at a salary of £105 per annum and out-of-pocket expenses. The Herefordshire county council has at present taken no action with regard to the administration of this Act.

Retirement of Dr. James Milward.

Dr. James Milward, who has been a Poor-law medical officer in Cardiff since the year 1867, has resigned his position as medical officer to the east district of the Cardiff union.

Bacteriological Diagnosis in Gloucestershire.

The bacteriological examinations required by the Bristol health department have hitherto been carried out in the municipal laboratory, but they are now intrusted to Professor Stanley Kent of the Bristol University College and at the last meeting of the Gloucestershire county council it was decided to pay to the college the sum of £105 annually in return for which medical officers of health in the county will be able to obtain from Professor Kent bacteriological examination of such specimens as they may send to him.

Vagrancy.

For many years past the members of the Gloucestershire county council have concerned themselves with the question of vagrancy within the county and by means of voluntary subscriptions certain tramps have been supplied with order tickets entitling them to a midday ration of bread in a distant town. In 1903 there were no less than 17 346 of these midday meals given out, an increase over the previous year of 4275. This increase is accounted for somewhat by the fact that there are extensive engineering undertakings being carried out at Avonmouth, at Gloucester, and at Winchcomb, and the professional tramp habitually follows in the

track of the navvy. The standing joint committee of the county of Gloucester recently adopted the following motion and asked other county councils to consider the propriety of sending to the Local Government Board a resolution in similar terms:—

That this quarterly meeting of the Gloucestershire standing joint committee views with great apprehension the progressive and serious increase in vagrancy in the country and respectfully submits that the subject should receive the careful consideration of the Local Government Board with a view to the establishment of a more effective and uniform system for dealing with tramps throughout the country.

Vaccination Expenditure.

At the meeting of the Bath board of guardians held on Jan. 13th it was reported that for the four years previous to the passing of the Vaccination Act of 1898 the vaccinations numbered 2100, the cost being £516, while for the four years subsequent to 1898 the vaccinations were 4403 and the expenditure amounted to £2052.

Jan. 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Small pox in Scotland.

THE following table shows the districts from which cases of small-pox have been intimated to the Local Government Board during the period from Jan. 1st to 15th inclusive:—

County.	Local authority.	Number of cases.
Ayr	Irvine burgh.	2
Dumbarton	Western district—	
	Alexandria.	1
	Dumbarton burgh.	1
	Kirkintilloch burgh.	1
Edinburgh	Edinburgh burgh.	10
	Leith burgh.	1
Elgin	Elgin county—	
	Findhorn.	1
Fife	Lochgelly burgh.	1
	Lower Ward—	
	Shettleston.	2
	Middle Ward—	
	Bellshill.	1
	Cambuslang.	1
	Newton.	4
	Tannochside.	1
	Upper ward—	
Lanark	Lesmahagow.	3
	Airdrie burgh.	1
	Coatbridge burgh.	6
	Glasgow burgh.	102
	Govan burgh.	35
	Hamilton burgh.	2
	Kinning Park burgh.	2
	Motherwell burgh.	1
	Partick burgh.	4
Peebles	Peebles burgh.	1
Perth	Perth district—	
	Glencarse (Inchyra).	3
	Upper district—	
	Scotstoun.	1
Renfrew	Barrhead burgh.	2
	Greenock burgh.	5
	Paisley burgh.	1
	Pollokshaws burgh.	2
Stirling	Stirling burgh.	1
		199

During the last few weeks small pox has made its appearance in Edinburgh chiefly among the inmates of common lodging-houses. One or two cases have occurred in the Craigleith Poorhouse. There are now 20 cases in hospital. One of them, which proved fatal, was of the confluent variety and occurred in a Christian Scientist.

Edinburgh Royal Infirmary.

The adjourned general meeting of the court of contributors to the Edinburgh Royal Infirmary was held on the afternoon of Jan. 18th in the new council chamber. There was an attendance of about 150. The report by the committee of contributors was submitted to the meeting by Mr. James Haldane, C.A., the convener. In this report the question of age limit for the medical and surgical staff was dealt with as follows: "The managers report that they have after most careful consideration made a new rule to the effect that the ordinary physicians and surgeons shall in future retire on reaching the age of 65. The contributors may be reminded that any new rule requires to be passed by the court of contributors. At the meeting of contributors held on Jan. 4th a motion was carried which enacted a new rule putting the professors of the University who hold wards in the infirmary on the same footing as regards an age limit as the medical and surgical officers who would be affected by the new rule framed by the managers. That new rule, although referred to in the motion as to an age limit for professors and therefore possibly by implication approved of by the court of contributors, has not been formally sanctioned by the court and technically it may be open to question whether the new rule as to the professors was in order in being passed. The matter appears to the committee to be very difficult and delicate both as regards the physicians and surgeons and the professors, and the committee do not at this stage, at all events, presume to offer any opinion upon it; but in reporting to the contributors on the proposed new rule, as they are by precedent bound to do, they venture to suggest to the contributors that they should in the meantime delay to deal with the new rule proposed by the managers and allow further time to consider the whole matter. It is of serious importance and ample time ought, in their view, to be allowed for consideration and discussion. As regards the rule affecting the professors it has to be observed that although it was carried by two to one only 63 contributors took part in the division, and it seems most desirable that the whole question should be fully ventilated and that a more adequate representation of the views of the contributors should be obtained on an important matter affecting the welfare of the institution. The committee beg to suggest that it might be desirable to appoint a small joint committee of the managers and members of the committee of contributors to consider the whole matter and make a report to a future meeting of contributors." After some discussion this suggestion from the committee of contributors was carried by 91 votes as against 52 for an amendment proposed by Mr. J. T. M'Lennan, advocate, to the effect "that this meeting approve of the new rule with this exception—that the words 'nor to the professors' be deleted." The meeting was adjourned until the last week in April.

Rectorial Address at the University of Edinburgh.

On Jan. 21st the Lord Rector of the University of Edinburgh, Sir Robert Finlay, M.P., delivered an address to the students of the University in the M'Ewan Hall in his capacity of Lord Rector of the University.

The Retirement of Dr. D. Argyll Robertson.

Regret will be felt by a large circle of friends in Edinburgh at the news of the early departure of Dr. Douglas Argyll Robertson who is about to remove to Jersey and to take up his residence there. A good many years ago Dr. Robertson gave up his lectureship in ophthalmic surgery in the Edinburgh Royal Infirmary, to which he was appointed in 1870, and he has gradually, I understand, been dropping out of numerous other positions and restricting himself to his private practice, which was one of the finest in the country. Douglas Argyll Robertson was born in Edinburgh in 1827, his father being a well-known surgeon of high standing. He received his education at various schools in Edinburgh, on the Continent, and at St. Andrews. His medical education was also obtained at various universities—Edinburgh, St. Andrews, Berlin, and Prague. He is a graduate in medicine of St. Andrews (1857), and a Licentiate, and afterwards a Fellow, of the Royal College of Surgeons of Edinburgh (1862). He selected the branch of ophthalmic surgery when he commenced practice in Edinburgh. In 1863 he was associated with the

discovery of the properties of the Calabar bean as an ophthalmic agent, and in 1881 he was vice-president of the ophthalmic section of the International Congress held in London. In 1869 and 1870 he made valuable discoveries in connexion with the eye symptoms in certain spinal lesions. Three years assistant surgeon in the ophthalmic department of the Edinburgh Royal Infirmary he was appointed in 1870 ophthalmic surgeon to that institution. Dr. Robertson had splendid physical powers and was an admirable athlete in his younger days, golf in particular claiming his attention. He was also an archer of the Royal Bodyguard.

The Case of Dr. J. F. D. Macara and the Parish Council of Durness.

Lord Pearson in the Bill Chamber of the Court of Session, Edinburgh, last week disposed of a note of suspension and interdict for Dr. James Findlay Duncan Macara, Durness, Lairg, Sutherlandshire, against the parish council of Durness with the object of preventing the respondents carrying out a resolution passed by them on Nov. 20th dismissing him from the post of medical officer of the parish. On March 31st and April 1st the complainer attended a pauper child named John Macpherson who was suffering from chicken-pox and advised his mother to isolate him and to keep his sister, Barbara Macpherson, from school for two or three weeks. He afterwards learned that in disregard of his advice the sister was sent to school and she was taken ill and was absent from school from April 9th to 20th. The complainer was not called in to attend her, however. The respondents directed him to certify to the head-master of the school as to the absence of Barbara Macpherson but he declined to do so on the ground that, while he was bound and willing to give such certificates to the parish council and the Local Government Board, he was not bound to give them to teachers or to the School Board. At a meeting of the parish council held on Nov. 6th two members were disqualified and thereafter, it was averred, the resolution complained of was passed by a majority of three to two, being confirmed at the meeting on Nov. 20th. The respondents stated that the complainer refused to supply their clerk with the certificate and maintained that in so doing he acted in breach of his duty. The disqualification of the two members of council was, they explained, entirely independent of the matter at issue between the complainer and them. His lordship passed the note and granted interim interdict.

Jan. 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Poor-law Medical Officers of Ireland.

AN important meeting of the Poor-law medical officers of the South Riding of the county Tipperary was held recently in the town-hall, Clonmel, for the purpose of forming a new branch of the Irish Medical Association and in support of the claims of the medical men. There was a large and representative attendance. The articles and by-laws of the county Wexford branch of the association were adopted and the question of the salaries of workhouse officers was postponed. A vote of thanks was tendered to Mr. R. F. Tobin of St. Vincent's Hospital, Dublin, and to Sir Lambert Ormsby for their advocacy of the claims of the Poor-law medical officers.

The Dangers of Overcrowded Theatres.

The public health department of the corporation of Dublin has issued summonses against the managers of the two principal theatres of the city in connexion with alleged breaches of the rules as regards means of egress laid down by the urban sanitary authority.

University Education in Ireland.

In response to a requisition signed by the Roman Catholic Archbishop of Dublin, Mr. John Redmond, M.P., and all the Parliamentary representatives of the city, the Lord Mayor has convened a meeting to be held in the Mansion House on Jan. 29th in "support of the claims of the Catholics of Ireland for equality in the matter of university education." The Very Rev. Dr. Delany, President of University College in the Catholic University of Ireland, has addressed a letter to the Lord Lieutenant of Ireland, protesting against any proposal that the claims of the Queen's College, Belfast, should be at once and separately dealt with, instead of being held over for consideration in connexion with a scheme for the reorganisation of the whole system of higher education in the country. Lord Dunraven has suggested a scheme which, it is said, was approved of on Jan. 12th by the Roman Catholic hierarchy at a meeting held in Maynooth. This plan is practically the one put forward by Sir Anthony MacDonnel and in brief is that two colleges should be affiliated to the present University of Dublin (with which Trinity College is connected)—viz., the Queen's College, Belfast, and a new Roman Catholic college, to be called the King's College, in Dublin on which a sum of £300,000 is reported to be spent. Something is also to be given to Trinity College, Dublin, and to Queen's College, Belfast. The scheme, whether the scheme of the Government or of Lord Dunraven, would seem still to be in an embryonic state and the religious difficulties to be adjusted are very grave. The announcement was made on Jan 18th that the board of Trinity College had received from His Majesty the King a letter authorising it to admit women to the degrees of the University of Dublin.

The Proposed Sanatorium for Consumptives at Whiteabbey.

A meeting of the inhabitants of Whiteabbey and surrounding districts was held in the court-house, Whiteabbey (the High Sheriff presiding), on Jan. 16th to protest against the purchase by the Belfast board of guardians of the "Abbey" for a sanatorium for consumptives. There was a very large and representative attendance. Objections were strongly urged against the scheme on the grounds of (1) injury to the neighbourhood and depreciation of property; (2) bad situation and site of the place selected, with a cold clay soil and adjacent swampy ground; (3) close proximity of a densely populated manufacturing village containing a spinning-mill; and (4) great cost caused by altering the present buildings and erecting huts, &c.

Jan 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Inspector-General of the Sanitary Service.

Dr. Chantemesse, professor of experimental and comparative pathology at the Faculty of Medicine, has just been appointed inspector-general of the Sanitary Service in the place of the late Professor Proust. No one has done more than the newly appointed inspector for the furthering of the science of hygiene and for prophylaxis against epidemic and contagious diseases. As scientific adviser to the Pasteur Institute Dr. Chantemesse has no equal among bacteriologists as regards scientific work, more especially in respect to typhoid fever. Moreover, the various sanitary missions with which he has been intrusted during past years single him out as one admirably fitted for the post to which he has just been appointed.

The Feeding of Infants.

At the Congress of Hygiene, which was held in Brussels in September, 1903, M. Budin laid down the principles which should regulate the feeding of infants. At the meeting of the Academy of Medicine held on Jan. 5th the same physician read a paper on the subject. Convinced of the dangers of over-feeding, even when the infant is breast-fed, M. Budin laid stress upon the necessity for regulation of the infant's meals. The infant at the breast should be regularly weighed and the quantity of milk taken at each meal should be verified by weighing the child before and after sucking, if, that is to say, its increase in weight appears to vary. Gastro enteritis, which kills so many infants, is a question not only of the quality of milk but of the quantity. If the infant is bottle-fed together with milk from the breast the same precaution should be taken. Under-feeding is better than over-feeding, for then the child simply ceases to increase in weight, whereas over-feeding gives rise to digestive troubles which impair nutrition and cause rapid wasting. Absolute bottle-feeding should not be thought of unless the mother has not even a trace of milk and of all the children who come to M. Budin's consultation rooms scarcely 5 per cent. are purely bottle fed. M. Budin has the greatest objection to this mode of feeding during the early months of life, for he considers it both difficult and dangerous, and although there are undoubtedly fine children reared in this way yet it cannot be said that they have run no risks. When the infant is some months old and weighs five or six kilogrammes a diet of exclusively sterilised cow's milk may be

employed in quantities of 100 grammes per kilogramme of body weight, presuming that the milk is pure and contains 30 grammes of fat per litre. These are mean figures which may have to be modified by the medical man in accordance with the exigencies of any particular case. If the child be fed in this way and the results are not good the milk should be analysed and it will for almost a certainty be found that it has been either deprived of its cream or else watered. During the second year of life milk should still furnish the basis of the diet, but to it may be added some farinaceous foodstuff. Bouillon is useless and only slightly nutritive, one litre of bouillon not having the same nutritive value as 100 grammes of milk. Eggs are not advisable, especially for the poor who can rarely get them of good quality. On an exclusively milk diet or on one with a little farinaceous food added to it infants can be seen who at the age of two years weigh from 11 to 13 kilogrammes, with a daily ration of from 1000 to 1050 grammes of food. M. Budin's results, which he obtained together with his fellow worker M. Planchon, are particularly good. Out of 712 infants who were brought to him and whom he was able to follow up daily the mortality was only 4·6 per 1000, whereas the mean for all Paris is 178 per 1000. No infant died from digestive troubles, of which the mean official mortality is 65 per 1000. Both infectious and pulmonary complaints occurred in far lower proportion than in Paris as a whole, which argues a greatly increased resistance on the part of the infants under observation.

Abscess of the Maxillary Sinus.

At the same meeting of the Academy of Medicine M. Jarre read a paper dealing with the importance of the etiology of the disease in the treatment of abscess of the maxillary sinus. In the great majority of cases an abscess of this character has its origin in some dental trouble and not primarily in an inflammation of the mucous membrane lining the sinus. If the cause be removed a rapid cure generally follows and this removal may be brought about by one of the following measures: extraction or conservative treatment of a decayed tooth, extraction of a root left after attempted extraction of the whole tooth, extraction of an unerupted tooth, or extraction of the affected tooth with removal of any fragments of necrosed bone. The secondary affections of the maxillary sinus heal up after removal of the offending cause and it is but rarely necessary to interfere with the antrum of Highmore itself.

The Institute of Colonial Medicine.

The second session of the Institute of Colonial Medicine has just come to an end and M. Doumer has distributed the diplomas in colonial medicine to the students. The number of students on the roll during the past session was 45. Of these 25 passed the examination for a diploma but owing to lack of vacancies only 19 received it. Of these 25 students 12 were foreigners and 13 were Frenchmen. Nearly all were doctors of medicine and already occupied high posts in the navy, in the colonial army, or in the sanitary service of the colonies of different countries. M. Doumer, Governor-General of Indo-China, has granted to the institute a subvention of 30,000 francs per annum. At present the practical work and the lectures are carried on in the laboratories of the Faculty of Medicine but this is merely a provisional arrangement. Professor Blanchard has arranged with the Association des Dames Françaises that the institute should be able eventually to use as a hospital both for treatment and for clinical instruction the new hospital which the association is building at Auteuil. Professor Blanchard and Dr. Wurtz, the latter of whom is in charge of the instruction in medicine and colonial hygiene, have started for England at the invitation of the London School of Tropical Medicine, accompanied by 15 students. They bear with them as an offering to your distinguished parasitologist, Sir Patrick Manson, the honorary diploma of the Society of Tropical Medicine which was inaugurated on Dec. 1st, 1903, by the students and professors of the Institute of Colonial Medicine.

"Chloridated" Diet and Hyperchlorhydria.

At the meeting of the Society of Biology held on Jan. 8th M. Vincent gave an account of a case in which he had noted the influence of a "chloridated" or "non-chloridated" diet on the gastric chemical process. The case was that of a patient suffering from hyperchlorhydria and it was found that "chloridated" diet produced a series of disagreeable results, such as pains in the alimentary canal and even vomiting. When, however, the patient was put upon a diet freed from all chlorides so far as possible a marked improvement set in and the hyperchlorhydria diminished.

Jan. 19th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Serum Treatment of Scarlet Fever.

Professor Bókay of Budapest has given in the *Deutsche Medicinische Wochenschrift* an account of the treatment of scarlet fever by Moser's polyvalent antistreptococcic serum. He explains that out of 46 cases of scarlet fever 12 showing severe symptoms were selected for serum treatment, the amount injected being from 100 to 200 cubic centimetres. The result was that the general state of the patients, especially the cerebral symptoms, obviously improved in from 24 to 48 hours. The exanthem also was modified, for it either became paler or, if not yet fully developed at the time of the injection, it did not show itself profusely. The most striking effect of the serum, however, was the decrease of temperature, the fall ranging from 3·4° to 0·9° C. within 24 hours and in three cases the temperature even came down to normal. The pulse became less frequent and its quality improved. With respect to the other symptoms Professor Bókay agreed with Professor Escherich and Dr. Moser that when necrosis of the palate occurred it was less extensive and less deep than usual; well marked nephritis and arthritis developed twice in a mild form; adenitis developed in four patients, of whom two died from septic pyæmia, these being the only fatal cases. Otitis developed, too, in several cases but only in a mild form. As to undesirable complications Professor Bókay mentions that there was one instance of suppuration at the place of the injection which healed after an incision had been made. Transitory albuminuria was once observed; albuminuria existing already at the time of the injection did not increase and sometimes even disappeared. An eruption attributable to the injection developed in seven cases—i.e., in 58 per cent. of the patients, whereas this symptom was observed by Dr. Moser in 75 per cent. It usually appeared between the sixth and sixteenth day but was once as late as the fourth week; it took either the form of urticaria or of erythema multiforme or was like the eruption of rubeola and scarlet fever. Professor Bókay concludes from his observations that Moser's serum has a specific antitoxic action against scarlet fever and that the results of the treatment are satisfactory but that further experience is indispensable previously to its introduction into general practice.

The late Professor Jolly.

Dr. Jolly, professor of psychiatry at the University of Berlin and chief of the university clinic for mental and nervous diseases, died suddenly on Jan. 3rd. He was born at Heidelberg in 1844. He came of a prominent Baden family, several members of which distinguished themselves in public and academical life. His father was a professor of physics at the Universities of Heidelberg and Munich; his uncle served the Government of Baden in a political capacity and had duties to perform in connexion with the revival of the German Empire in 1870. Professor Jolly received his professional education in Munich and Göttingen, where he obtained his medical qualifications in 1868 and then became an assistant in the medical clinic at Munich under Professor Pfeufer. After a time he left this place for an appointment at the lunatic asylum of Werneck under the celebrated Professor Gudden who, as is generally known, lost his life in tragic circumstances, together with the late King Ludwig of Bavaria. Afterwards he became an assistant to Professor Rinecker at Würzburg where he was recognised *privatdocent* in 1872. When Professor Krafft-Ebing left Strasburg for Vienna in 1873 Dr. Jolly was called to take the chair of psychiatry at the former university which he quitted only in 1890 to succeed Professor Westpfahl as ordinary professor of mental diseases at the University of Berlin. His first published work was on the subject of the Cerebral Pressure and the Circulation in the Brain. At a later period he contributed the chapters on Hysteria and Hypochondria to Ziemssen's "Handbook of Clinical Medicine" and a series of essays on different psychiatric questions to the *Archives of Psychiatry*, *Charité Annals*, and other

periodicals. Recently he devoted much attention to the reconstruction of the Royal university clinic for mental and nervous diseases, an institution which seems destined to become a model of its kind. A sudden death from rupture of an aneurysm of the aorta has, however, prevented him from seeing the completion of this work. Professor Jolly was president of the German Psychiatric Association and of the Berlin Psychiatric Society; he was very highly esteemed by the profession and by the public, so that the news of his death has been received with general regret.

Death of Dr. Dettweiler.

The death of Dr. Dettweiler, late chief physician to the Falkenstein sanatorium for consumptives, is announced. The deceased, who was one of the earliest and most successful advocates of the open-air treatment of tuberculosis, was born in 1837 at Wintersheim in Hesse. On receiving his medical qualification in 1863 he entered the army medical service and took part in the wars of 1864, 1866, and 1871, after which he proceeded to Görbersdorf to join the late Dr. Brehmer, the founder of the first sanatorium for consumptives in Germany. They worked together for six years, at the expiry of which Dr. Dettweiler left Dr. Brehmer and founded a new sanatorium at Falkenstein, near Kronberg in the Taunus Mountains. Whilst Dr. Brehmer laid great stress on the elevated position of his sanatorium and on the value of systematic walking exercise in strengthening the heart muscle the principal features of Dr. Dettweiler's method at Falkenstein were the so-called "Liegekur" and dietetic treatment. One of his greatest merits was the foundation of a sanatorium for the indigent classes as early as 1891, at a time when none but the wealthy enjoyed the benefits of this special treatment. Both in national and international congresses and in numerous publications he pleaded for the hygienic treatment of tuberculosis and it was principally due to his influence that the movement for providing sanatoriums for the poorer classes has been so successfully developed in Germany. Dr. Dettweiler retired from practice a year ago on account of the state of his health. The Falkenstein sanatorium, so well known both in Germany and abroad, and specially in England, has since that time been, and will continue to be, conducted according to the principles followed by its founder.

Statistics of the University of Berlin.

The number of students at the University of Berlin is higher just now than at any time since its foundation in 1810. According to the daily press there are 7503 matriculated students, of whom 331 belong to the theological, 2565 to the juridical, 3414 to the philosophical, and 1193 to the medical faculties respectively. The number of medical students fortunately shows a slight decrease. It is interesting to observe the increasing number of foreigners, of whom no less than 1184 are registered, being nearly one-sixth of the students. As regards numbers the Russians head the list, of which nationality there are 440; then of the other European nationalities there come 136 Austrians, 93 Swiss, 55 Hungarians, 46 British, 36 Roumanians, 23 Servians, 22 Italians, 21 French, 20 Greek, 18 Bulgarians, 15 Scandinavians, 14 Luxemburgers, 11 Dutchmen, 10 Spaniards, 8 Turks, 7 Danes, 3 Belgians, and 2 Portuguese. Of students from other countries 160 come from America, 40 from Asia, 3 from Africa, and 1 from Australia. The regulations of the University do not allow females to matriculate but 532 women are nevertheless admitted to the lectures. The Army Medical Academy, which is to some extent in connexion with the medical faculty of the University, has 318 students.

Medicine and the Law.

A man who was suffering from gonorrhœa and syphilis was recently brought before a law court in Munich on a charge of infecting a young woman by cohabitation. He had been informed by his medical attendant as to the nature of his ailment and warned against cohabitation and on this ground he was found guilty of having caused bodily injury by neglect (fahrlässige Körperverletzung). Though the sentence of five months' imprisonment is lenient in comparison with the grave consequences of the offence it is to be hoped that it may act as a warning, especially as cases of this kind, though, of course, frequent enough, are very seldom brought before a law court in Germany. Another judgment, also of medical interest, had reference to a man who was prosecuted for having caused the death of his daughter by neglect. The child suffered from suppuration of the knee-joint and the surgeon in attendance declaring an operation to be urgent advised the father to take her to a hospital. The child, however, implored him to leave her at home, which he accordingly did. On her death, which was due to pyæmia, the father was found guilty by the local court but on appeal he was acquitted by the Supreme Court which decided that he had acted excusably in complying with the wishes of the patient.

Jan. 18th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Improvements in Cairo.

THE first serious attempt at improving the sanitary arrangements of Cairo has just been made by the Savoy Hotel. This is the adoption of the septic tank system for the disposal of sewage in place of the unpleasant cesspit which has for so long been considered the acme of perfection in sanitation in Egypt. The whole plant, which is most solidly built in Hennèbique cement, stands in the grounds behind the hotel at the base of the V formed by the diverging wings of the building. The general arrangement of the system adopted is as follows. The pipes which carry the waste from the kitchen, laundry, and baths join with those from the water-closets and urinals and with the waste pipes from other parts of the building in one large drain at the entrance of the collecting pits. All the waste water and sewage are in this way passed directly into two deep cement pits and thence into a set of smaller pits or grease traps in which all the grease and oily matters generally are collected and removed. The residue passes on again into a large underground cement tank which is capable of holding a 24 hours' supply and is very dark and tightly closed. Here, as the manager of the hotel quaintly but correctly puts it, the microbes do their work. After a sufficient time has elapsed for all the bacterial processes to take place the fluid contents of the tank are led off by way of pipes, opening below the level of the surface of the sewage, straight on to a large filter bed (seven metres thick and more) consisting of alternating layers of stone, sand, and coke, and filters into the old, now disused, cesspits, from which it may be pumped and used for the garden, or it is allowed to percolate through the soil beneath the filter-bed into the subsoil water, which is particularly plentiful in Cairo in such close proximity to the Nile. A varying amount of semi solid matter remains in the septic tank and this must be removed at long intervals. There is really no danger to be feared from sewage treated in this way provided that no escape of gas is permitted and that the effluent easily reaches the subsoil water and is thus carried away. Sufficient time must be allowed for thorough disintegration to occur and the sewage must therefore be slowly let into the tank from the collecting pits, the rate of inflow varying with the rapidity of the bacterial action. The whole installation is arranged in a comparatively small space, but the first cost is considerable, the present plant requiring nearly £700 to complete. It says a great deal for the management of the Savoy Hotel that so soon after putting in an elaborate system of cesspits they should have gone to such an expense in adopting a better method of sewage disposal as soon as experience demonstrated the unsatisfactory working of the former system. That this is not the only direction in which the Savoy Hotel caters for the comfort and well-being of its visitors is evident from the fact that a new system of electric heating has just been completed throughout the hotel. It is gratifying to know also that the Standard Life Insurance Company, which is about to build a large block of buildings quite close to the Savoy Hotel, conditional on the success of the present scheme, intends to adopt the same system in preference to the more antiquated and unsavoury methods hitherto in vogue in Cairo.

The New Italian Hospital.

The various foreign nations in Egypt have during the last

few years begun to realise their obligations towards their rapidly increasing colonies and have built hospitals in which their people may be treated by medical men of their own nationality and be nursed by their fellow countrywomen. It is to be admitted that the British colony, numerically a small one it is true, has been about the last of all to awaken in this respect and the new Anglo-American hospital, which is shortly to be opened, is the result. There are now in Cairo, in addition to others on a less pretentious scale, a French hospital, a German, an Austrian, an Anglo-American, and now an Italian has just been opened. By the kindness of Dr. Tonin, the physician to the hospital, and of Dr. Gaglio, who is in surgical charge as well as being resident medical officer, I had an opportunity of inspecting the building on the day before that on which the patients were admitted. The King of Italy has contributed largely to the building fund and the Italian community in Cairo—numbering in all some 16 000 persons—has very generously assisted. At the present time accommodation is provided for 50 patients but there is ample space for further buildings as funds become available. The hospital is a distinctly impressive building situated at Abbassieh, well away from the main road and on the fringe of the desert between it and the Mokattam hills. It is built in pavilions all connected together by covered passages. The front block, which is parallel to the road, contains the administrative offices, special wards for paying patients and serious operations, and the operating theatre. In the latter all the most practical aseptic arrangements are made and the whole set of rooms, consisting of a small anæsthetic room, the theatre proper, and the sterilising room beyond, is coated throughout with a splendid enamelled surface which can be washed down periodically by means of a small hydrant that can be attached to a hot-water plug in a hidden recess in the wall. One was particularly struck with the perfectly plain flat doors which when closed were quite flush with the walls and the absence of all ledges liable to collect dust, and also with a particularly good washing basin with pedal action one of Shanks' latest. In the upper floor of this block are the resident's quarters with a lovely view of Cairo and the desert. The air is beautifully clear and dry and a better site for a hospital could hardly be imagined. The general wards are in two separate blocks, connected with the front by covered ways and consisting for the present of only one floor. In each block are several small wards for special cases and a large ward of 14 beds beyond, which is sure to be always well filled, as the hospital is intended primarily for poor Italians who are entirely unable to pay anything for their hospital treatment. Separate buildings are provided for the kitchen, the laundry, and the mortuary, which latter is finished in enamel composition to facilitate cleaning and washing. With the very large Italian colony in Cairo it may be confidently anticipated that this hospital will prove a very great boon to its suffering poor and it is reasonable to expect that further additions will be required in the near future. It was found that after the French hospital had been opened a year it had to be enlarged to twice its original extent to accommodate the many applicants for admission. This augurs well for both of the new hospitals, the Italian and the Anglo-American of which I hope to be able to chronicle the opening very soon.

Cattle Plague.

Hardly anything could be more expressive of the danger to be anticipated in connexion with the recrudescence of cattle plague in Egypt than the last bulletin of the Director-General of the Sanitary Department. It states that during the week ending Dec. 20th, 1903, there were 2234 deaths from "bovine typhus" reported throughout the country. Of these 1983 occurred in Upper Egypt and there was an increase of 752 over the number for the preceding week. The total number of deaths which have occurred since the commencement of the epidemic amounts to 13 462. The Director-General complains in emphatic terms that owners of cattle not only do not give assistance to the sanitary administration in the efforts which the latter is making to wipe out the disease, but that they even do their utmost to conceal the disease and to deceive the agents of the administration in their inspection of villages. He makes no objection to sick animals being slaughtered and their flesh sold for food but he regrets that the hides of these animals are also sold, as they spread the disease when taken from place to place by the purchasers.

Jan. 10th.

Obituary.

FRANKLEN GEORGE EVANS, M.R.C.S. ENG., L.S.A.

Mr. Franklen George Evans, who died on Jan. 17th after an attack of apoplexy, had given up general practice for more than 20 years but he was so closely identified with many large undertakings in the Cardiff district that his death will be regarded as a distinct loss to the community. Mr. Evans, who was born in Cardiff in 1827, was the son of Edward Evans, at one time the only surgeon in Cardiff for in 1821 the population of the borough was less than 3500. Mr. Franklen Evans received his medical education at St Bartholomew's Hospital and in 1849 qualified as M.R.C.S. Eng. and L.S.A. After being house surgeon to the Cardiff Infirmary, or as it was then styled, the Glamorgan and Monmouthshire Infirmary and Dispensary, he was appointed surgeon to the Pentyrch Colliery and Ironworks and to the Melingriffith Tinplate Works, holding this position until 1878, when the colliery and ironworks were closed. Mr. Evans was at the time of his death chairman of the Rhymney Railway Company and a director of the Pontypridd Waterworks Company as well as of many other large industrial concerns. He was very much attached to the study of astronomy and was a Fellow of the Royal Astronomical Society. A few years ago he presented to the Cardiff corporation a large and valuable astronomical telescope. Mr. Evans was twice married, his second wife being a grandniece of Mrs. Wyndham Lewis who subsequently became the Countess of Beaconsfield.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Professor Karl Gebhard, a well-known teacher of gynæcology in Berlin. His death followed an operation.—Dr. Ewald Wolff of Breslau, at the age of 88 years. In early professional life he was distinguished as an operator in cases of strabismus. Later he was appointed to high administrative rank and wrote on many subjects connected with State medicine.—Dr. Georg Freiherr von Liebig, a son of the celebrated chemist, at the age of 76 years. He possessed an English qualification and was for a time in the East India Company's service. He also acted as professor of natural history in Calcutta. After the Mutiny he returned to Germany and was for many years *privat-docent* of climatic medicine in the University of Munich.—Dr. Emile Leidié, professor of chemistry and toxicology in the Ecole Supérieure de Pharmacie in Paris.—Dr. Karl Emmert, professor of State medicine and senior member of the medical faculty of Berne, at the age of 91 years.—Dr. Ryher, formerly lecturer on clinical medicine in the University of Dorpat, at the age of 72 years.—Dr. Theodor von Schröder, editor of the *St. Petersburger Medicinische Wochenschrift*.—Dr. S. Verekundoff, *privat-docent* of the history of medicine in the Military Medical Academy of St. Petersburg.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Graduates in Arts of the University of King's College, Windsor, Nova Scotia, are to be admitted to the privileges of affiliated students of the University of Cambridge. At the Congregation on Jan. 14th the following degrees were conferred:—

M.B.—T. Guthrie, King's.

B.C.—N. C. Carver, King's; H. A. Clarke, Trinity; H. D. Hoffmann, Trinity; J. E. Pellow, St. John's; C. M. Murray, Pembroke; G. E. Davidson, J. H. Donnell, and E. Gardner, Caius; P. Hardy, Trinity Hall; and E. Higson, Magdalene.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bonn:* Dr. Fischer has been recognised as *privat docent* of Pathological Anatomy.—*Copenhagen:* Dr. V. Rubow has been recognised as *privat docent* of Medicine and Dr. V. Jensen as *privat docent* of Bacteriology.—*Erlangen:* Dr. Robert Heinz, *privat docent* of Pharmacology, has been promoted to an Extraordinary Professorship. He has also been appointed to the charge of the Pharmacological Institute.—

Freiburg: Dr. K. Schleip has been recognised as *privat-docent* of Medicine.—*Halle:* Dr. Knapp of Göttingen has been offered the chair of Mental Diseases which Professor Heironymer is obliged to resign on account of the state of his health.—*Kiel:* Dr. Hans Nösske has been recognised as *privat docent* of Surgery.—*Munich:* Dr. Seitz has been appointed chief physician to the Gynæcological Clinic.—*Naples:* Dr. Giuseppe A. Petrone has been recognised as *privat-docent* of Pediatry.—*Pavia:* Dr. Luigi Devoto, Extraordinary Professor of Internal Pathology, has been promoted to be Ordinary Professor.—*Salamanca:* Dr. Arturo Nuñez y Garcia has been appointed Professor of Histology.—*Strasburg:* Dr. F. Weidenreich has been appointed Extraordinary Professor of Anatomy.—*Turin:* Dr. Vincenzo Valdagni has been recognised as *privat docent* of Midwifery and Gynæcology.—*Vienna:* The selections for the Dermatological chair of the late Professor Neumann are: (1) Professor Rille of Leipsic, (2) Professor Anton Mracek, and (3) Professor Maximilian von Zeissel. Dr. Leopold Harmer has been recognised as *privat-docent* of Laryngology.—*Würzburg:* Dr. Dieudonné, *privat-docent* of Hygiene, has been appointed Professor. Dr Josef Arneth has been recognised as *privat-docent* of Internal Medicine.

DONATIONS AND BEQUESTS.—Sir W. T. Lewis, the president of the Hamadryad Seamen's Hospital, Cardiff, has given £1000 for the endowment of a bed in memory of the late Lady Lewis.—The Clothworkers' Company has voted £1000 payable in five yearly instalments of £200, to King's College Hospital Removal Fund.—The employés of Messrs. J. S. Fry and Sons, Limited, have contributed £617, and the work people of the Imperial Tobacco Company £500, to the Bristol medical charities.

LITERARY INTELLIGENCE.—A volume, announced by Messrs. J. and A. Churchill, is just ready for publication and comprises the second series of lectures on Diseases of the Nervous System, by Sir William R Gowers, F.R.S. The lectures, which are ten in number, deal with the following subjects: Subjective Visual Sensations; Subjective Sensations of Sound; Abiotrophy: Diseases from Defects of Life; Myopathy and a Distal Form; Metallic Poisoning; Syphilitic Diseases of the Nervous System; Inevitable Failure; Syringal Hæmorrhage into the Spinal Cord; Myasthenia and Ophthalmoplegia; and the Use of Drugs. They have been carefully revised by the author for publication in this form.

LECTURES IN MEDICAL JURISPRUDENCE.—On Jan. 14th Dr. F. J. Waldo, coroner for the City of London, delivered the first of a series of six lectures on medical jurisprudence at the Old Hall, Lincoln's Inn, under the auspices of the Council of Legal Education. The subject of the first lecture was the Medical Man as Witness. At the outset the abilities and disabilities attached to the registration of medical men were dealt with. A medical man might give evidence either as a common witness to facts or as an expert in matters of deduction and experience. The why and wherefore of conflicting medical evidence were next discussed at some length and reasons were given to show how candid and skilful men could contradict each other in court without sacrifice of honesty. The illustration of this point was taken from "railway spine," cases of accidental injury in which the widest difference of opinion often prevailed. The ending of litigation was often attended by a speedy recovery on the part of the patient. Quite as great or greater differences existed among lawyers, as proved by the reversal of decisions, time after time, in successive courts, until the House of Lords was reached. The important question of professional privilege was discussed at considerable length and the illustrations included the recent appeal of a provincial head constable to the local medical men for information likely to identify the offender in a case of infanticide. A medical witness is bound to answer fully in the witness box if required to do so by the court, except where by so doing he would incriminate himself. In ordinary life, however, any violation of professional secrets might involve an action at law. The unwritten law of the medical profession appeared to be that there was no obligation to reveal anything that came under their notice short of murder or the very gravest criminal charges. This professional secrecy dated from the earliest times, as shown by the oath of Hippocrates, the substance of which was still adopted in the declaration of the Scotch medical graduate. The lecturer concluded with an analysis of the various kinds of medical evidence and some of the points concerned in the medical examination of prisoners.

GUY'S HOSPITAL.—On Jan. 19th a concert in aid of the funds of Guy's Hospital was given in the public Hall, Eltham, by the Toy Orchestral Society of that place. Two toy symphonies were given, one being by Gurlitt and the other by Desmond Ryan. Songs, violin solos, and musical sketches were contributed by Mr. N. H. Cox, Mrs. Reynolds, Mrs. Worthington, and Mr. Tom Clare. The concert was a great success and the sum of £28 will be handed over to the charity as a result.

WEATHER AT SEVENOAKS IN 1903.—We have received an interesting printed report of the weather at Sevenoaks during 1903 from Mr. W. W. Wagstaffe, F.R.C.S. Eng., who has kept records during the last 20 years. He states that 1903, besides being the wettest year, has apparently been the coldest. The total deficiency of rain for the last eight years, nearly 34 inches, is now made up, the rainfall of Sevenoaks greatly exceeding that of London. The rain at night time was in the proportion of two to one more than during the day.

THE COLONIAL NURSING ASSOCIATION.—The Goldsmiths' Company has forwarded £50 and the Mercers' Company 10 guineas, in addition to sums from other contributors, to the Colonial Nursing Association. The association has since its foundation in 1896 supplied nearly 200 nurses for work in the Crown colonies and in other British communities abroad. At the present time 105 nurses are at work in various parts of the empire and many applications are being received for nurses in all directions from new districts in India, the Transvaal, and East Africa. Subscriptions may be sent to the honorary secretary, Colonial Nursing Association, Imperial Institute, London, S.W., from whom all particulars may be obtained.

SOCIETY OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—A meeting of the council of this society was held at 20, Brunswick-square, London, W.C., on Jan. 12th, Mr. Joseph Smith being in the chair. The following resolutions were unanimously agreed to and ordered to be sent to the College:—

1. That this council considers the reply of the College Council to the resolutions passed at the last annual meeting of Fellows and Members to be most unsatisfactory. Having regard to the repeated refusal to accede to the wishes of the Members as expressed in meetings to which they have been specially summoned, this council emphatically repudiates the claim of the College Council to represent the Members, and further declares its determination not to abate its efforts to obtain adequate representation for the great majority of the body corporate.
2. That this council desires to call attention to the inexpediency of appointing a committee to deal with the relations of the medical profession to the coroners' courts composed exclusively of those who are seldom brought into contact with these courts and would suggest the addition to the committee of some Fellows or Members outside the College Council having special knowledge of the matter.

It is stated to be the intention of the society to hold meetings of Members in various provincial centres during the year in order to protest against their continued exclusion from all collegiate rights.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.
Aids to Surgery. By Joseph Cunning, M.B., B.S., F.R.C.S.Eng., Senior Resident Medical Officer, Royal Free Hospital. Price, cloth, 4s. 6d.; paper, 4s.

BLACK, ADAM AND CHARLES, Soho-square, London, W.
The Englishwoman's Year-book and Directory 1904. Sixth year of new issue. Edited by Emily Janes, Organising Secretary to the National Union of Women Workers of Great Britain and Ireland. Price 2s. 6d. net.

BROWNE, T. B., LIMITED, 163, Queen Victoria-street, E.C.
The Advertiser's A B C. The Standard Advertisement Press Directory. 1904. Price 10s. 6d.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.
The Value of Ureteric Meatoscopy in Obscure Diseases of the Kidney: a Study in Clinical and Operative Surgery. By E. Hurry Fenwick, F.R.C.S., Surgeon to, and a Lecturer on Clinical Surgery at, the London Hospital. Price 6s. 6d.
A Manual of General or Experimental Pathology for Students and Practitioners. By Walter Sydney Lazarus Barlow, B.A., B.C., M.D., F.R.C.P., Director of the Cancer Research Laboratories of the Middlesex Hospital. Second edition. Price 21s. net.

F. A. DAVIS COMPANY, 1914-16, Cherry-street, Philadelphia.

The Practical Care of the Baby. By Theron Wendell Kilmer, M.D., Associate Professor of Diseases of Children in the New York School of Clinical Medicine. Price $1.00 net.

FISCHER, GUSTAV, Jena.

Die Chirurgischen Untersuchungsarten. Einführende Vorlesungen über allgemeine chirurgische Diagnostik. Von Dr. Otto Manz, Privat-docent der Chirurgie. I. Teil. Price M 6.

MASSON ET CIE., 120, Boulevard Saint-Germain, Paris.

Les Lésions du Rein et des Capsules Surrénales. Par L. Hoche, Chef des travaux d'Anatomie pathologique à la Faculté de Médecine de Nancy. Avec la Collaboration de P. Briquel, Préparateur d'Anatomie pathologique. Préface de M. le Professeur Cornil. Price Fr 12.

POOR LAW PUBLICATIONS COMPANY, 18 and 19, Whitefriars-street, E.C.

The Law Relating to Pauper Lunatics. By Sydney Davey, B.A., LL.B., of the Middle Temple, Barrister-at-Law. Price 5s. 6d.

RICHARDS, GRANT, 48, Leicester-square, W.C.

How to Keep Well: An Explanation of Modern Methods of Preventing Disease. By Floyd M. Crandall, M.D. Price 6s.

ROWE PUBLISHING COMPANY, 1312-34, East Washington-street, Chicago.

A Non-Surgical Treatise on Diseases of the Prostate Gland and Adnexa. By George Whitfield Overall, A.B., M.D., formerly Professor of Physiology in the Memphis Hospital Medical College. Price, cloth, $2.00; morocco, $3.00.

SCHOETZ, RICHARD, Lutsenstrasse, 36, Berlin.

Hygiene und Seuchenbekämpfung. Gesammelte Abhandlungen. Von Dr. Martin Kirchner, Geheimem Obermedizinalrat und vortragendem Rat im K. Preussischen Ministerium der Geistlichen, Unterrichtsund Medizinal-Angelegenheiten. Price, paper, M 18; bound, M 20.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Manuel Pratique d'Hygiène a l'Usage des Médecins et des Etudiants. Par le Dr. Guirand, Professeur d'Hygiène à la Faculté de Médecine de l'Université de Toulouse. Troisième édition, revue et augmentée. Price Fr. 12.

"THE CHEMIST AND DRUGGIST," 42, Cannon-street, E.C.

Elementary Dispensing Practice. For Students of Pharmacy and Medicine. By Joseph Ince, F.C.S., F.L.S., F.R.M.S., Pharmaceutical Chemist, Associate of King's College, London. Price 3s. 6d. net.

WALTER SCOTT PUBLISHING COMPANY, LIMITED, London and Newcastle-on-Tyne.

Proposed Sterilization of Certain Mental and Physical Degenerates. An Appeal to Asylum Managers and Others. By Robert Reid Rentoul, Doctor of Medicine; late Member of the General Council of Medical Education for the United Kingdom. Price 1s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BENNETT, ERNEST, M.B. Glasg., has been appointed House Surgeon to the Derbyshire Royal Infirmary.

BOYTON, A. J. H., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Watlington District of the county of Oxford.

BUTTERWORTH, RUPERT, M.B. Cantab., has been appointed House Physician to the Derbyshire Royal Infirmary.

COLERIDGE, A., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Medical Officer at the Mount Vernon Consumption Hospital, Hampstead.

CONDELL, A. P., M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

DONALD, C. W., M.B., F.R.C.S. Ed., has been appointed Assistant Honorary Physician to the Cumberland Infirmary, Carlisle.

EVANS, J. HOWELL, M.B., M.Ch. Oxon, F.R.C.S. Eng., has been appointed Registrar to the Chelsea Hospital for Women.

GOODWIN, ROBERT, M.D., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

GRANT, LACHLAN, M.D. Edin., has been appointed Medical Officer to the Ballachulish Workmen's Medical Club.

HARDY, PERCY, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon to the Derbyshire Royal Infirmary.

HUNT, JOHN, M.D. Glasg., D.P.H., has been appointed Medical Officer of Health of Burgh of Prestwick, Ayrshire.

JONES, H. BUCKLAND, M.B., M.Ch. Edin., has been appointed Assistant Surgeon to the Metropolitan Ear, Nose, and Throat Hospital.

KIRKBY, WALTER, L.R.C.P., L.R.C.S. Ed., L.F.P.S. Glasg., has been appointed Medical Examiner of Recruits for the Glamorgan Imperial Yeomanry in the Maesteg District.

MUMMERY, J. P. LOCKHART, B.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to St. Mark's Hospital for Fistula and other Diseases of the Rectum, City-road, London, E.C.

PHILLIPS, JAMES, F.R.C.S. Ed., has been appointed Honorary Surgeon to the Bradford (Yorks) Children's Hospital.

ROSE, THOMAS, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the Chelsea Hospital for Women.

WILSON, BASIL M., M.B. Vict., has been appointed House Surgeon to the Derbyshire Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOURNEMOUTH NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST.—Resident Medical Officer from Feb. 13th to June 30th. Salary £50, with board, residence, and washing.

BRADFORD WORKHOUSE AND HOSPITAL.—Resident Assistant Medical Officer, unmarried. Salary £125, with rations, apartments, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—Assistant Surgeon.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Two House Physicians for six months. Salary at rate of £50 per annum, with board, washing, and residence.

DARENTH ASYLUM (TRAINING SCHOOL AND INDUSTRIAL COLONY), near Dartford, Kent.—Medical Superintendent. Salary £800 per annum, rising to £900, with house, coals, light, washing, &c.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Male Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GORDON HOSPITAL FOR FISTULA, ETC., Vauxhall Bridge-road, S.W.—House Surgeon. Honorarium £15 15s. for six months, or £40 for twelve months, with board and residence.

HAMPSTEAD GENERAL HOSPITAL.—Resident Medical Officer for six months, eligible for re-election. Salary at rate of £120 per annum, with rooms, coals, and gas.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance.

LONDON HOSPITAL, Whitechapel road, E.—Two Honorary Senior Clinical Assistants (Aural).

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £100 per annum, with board, lodging, and washing.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with bed, board, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury.—Junior House Physician. Salary £50 a year, with board and residence. Also Registrar. Honorarium of 50 guineas.

PAPA WESTRAY, ORKNEY.—Lady Medical Officer and Public Vaccinator. Salary £80, with fees, house, and garden.

POPLAR UNION.—Medical Officer. Salary £130 per annum.

ROYAL BUCKINGHAMSHIRE HOSPITAL, Aylesbury.—Resident Surgeon, unmarried. Salary £100, rising to £120, with board and apartments.

ROYAL EAR HOSPITAL, Frith-street, Soho, W.—Honorary Assistant Anæsthetist.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Honorary Surgeon.

WINCHESTER, ROYAL HANTS COUNTY HOSPITAL.—Honorary Surgeon-in-Ordinary.

YORK COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

THE Secretary of State, Home Office, S.W., gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1897, for Birmingham, in County Court Circuit No. 21, and for Bromsgrove, Redditch, and Solihull, in County Court Circuit No. 22.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory Act at Yeovil, in the county of Somerset, and at Herne Bay, in the county of Kent.

Births, Marriages, and Deaths.

BIRTHS

HINDS.—On Jan 13th, at Tennyson-road, Worthing, the wife of Frank Hinds, M.D., of a son.

MAY.—On Jan. 20th, at Ivanhoe, 50, Archers-road, Southampton, the wife of Henry J. May, M.B., B.C. Cantab., of a daughter.

NEWTON.—On the 13th instant, at Brookhill, Sheffield, the wife of Duncan Gray Newton, M.B., C.M., of a daughter.

WILLIAMS.—On the 19th inst., at Bryn Derw, Penarth, the wife of W. Williams, M.A., M.D., County Medical Officer, of a son.

MARRIAGE.

SWALES—PENTIN.—On Jan. 20th, at St. James' Church, West Derby, Liverpool, by the Rev. G. Fred Wills, vicar of Up-Holland, near Wigan, Edward Swales, M.R.C.S., L.R.C.P. Lond., to Florence Booth, third daughter of the late F. J. Pentin, of Liverpool.

DEATHS.

BARRY.—On Jan. 14th, at the residence of his uncle, Alfred Palmer, Esq., J.P., Wokefield-park, Mortimer, Gerald Exall, the beloved and only son of Mrs. Barry, 3, Nevern-square, S.W., and of the late Dr. F. W. Barry, of H.M. Local Government Board.

LONGDEN.—On the 18th inst., at Kempe-road, Kensal-rise, Duncan Campbell Longden, F.R.C.S. Ed., aged 37.

TURNER.—On Jan. 2nd, 1904, at his residence, 197, Walm-lane, Cricklewood, N.W., Alfred James Turner, M.D., aged 58 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PREVALENCE OF QUACKERY.

WE have received a little handbill entitled "The Health Guide," which bears on its front page the names of Messrs. "Constantine and Jackson," with their address and the statement that they are the sole agents in England for Dr. Henry Paterson. The bill goes on to state that Dr. Paterson, who, we suspect, is an American product, has made "marvellous medical discoveries" which "radically cure most chronic diseases from whatever cause arising." We learn also that at a depôt near the Law Courts, London, "those afflicted with skin, blood, and nervous disorders may rely upon obtaining sound scientific and conscientious treatment." We are also asked to note that "all consultations concerning various complaints of men and women are absolutely free," that "a specialist attends daily," that "Dr. Paterson's Soluble Sandal Oil and Copaiba Capsules are prepared with the greatest care," that "all kinds of surgical instruments and rubber goods are kept in stock," and that "analyses are undertaken." The handbill is addressed "To the Editors of THE LANCET, Quack Department."

We wish that it were possible for us to have a bureau attached to this office where the rapacity and mendacity of quacks could be systematically exposed. We feel, however, that we can only touch upon the fringe of this enormous subject. Dupes demand to be swindled all the world over, while it is but human nature that unfortunate sick people, failing from the very nature of their diseases to find relief in scientific medicine, should have recourse to the ministrations of the charlatan. The demand thus created for quacks is stimulated by the venality of newspaper proprietors who accept disgusting and disgraceful advertisements from persons of well-established roguery, careless of the harm that may thus be done to the health and the pockets of their *clientèle*. Only a few years ago column after column of newspapers, the proprietors of which would certainly have been annoyed if they were told that their journalistic enterprise was not respectable, teemed with the advertisements of abortion-mongers. The abuse became so grave that we directed close attention to it and in a short series of articles were able to show that the "female remedies" and "medicines to cure all obstructions" offered to women at high prices presented the following features: (1) they were intended to be used by women for the purposes of criminal abortion; (2) they were in some cases actively mischievous in the direction intended; (3) they were in many more cases inert, the woman merely having been swindled out of her money instead of having been abetted in her intended crime; and (4) their price was completely extortionate, sums ranging from 5*s.* to £5 being demanded for medicine that would have been dear at five farthings. As a result of our articles respectable papers refused advertisements of the sort that we indicated as criminal or fraudulent and the infamous trade came practically to an end. Against definite groups of quack remedies of this sort definite action can be taken, but with regard to quackery in general we can only make the general remark that its increasing prevalence forms a poor comment upon the intelligence of the people and a queer sidelight upon commercial morality.

ICHTHYOL IN BONE DISEASES.

To the Editors of THE LANCET.

SIRS,—Could any of your readers give me any information dealing with the effect of ichthyol on chronic bone diseases or refer me to any literature on the subject?—I am, Sirs, yours faithfully,

Jan. 18th, 1904. JUNIOR PRACTITIONER.

"SO HERE I AM FOR FIGHT."

THIS heading aptly describes the proceedings of both sections at a recent meeting of the North Dublin board of guardians, where questions of some medical importance were ventilated. On Jan. 7th a very unseemly discussion took place at a weekly meeting of the North Dublin guardians with reference to the action of the visiting surgeon to the North Dublin Union Hospital. It appears that a refractory patient at the union who, according to Mr. Caleb J. Powell, the surgeon in question, "committed the most filthy nuisance in the ward where there were other patients, some of them dying," and who "on more than one occasion assaulted the attendants," was ordered to be removed to the lunatic infirmary. Whereupon a section of the guardians appear, by the account in the *Dublin Express*, to have charged Mr. Powell with having exceeded his duty, it being said that no complaints had been made against the patient in question by the attendants. This, however, was shown to be false and one of the guardians said that attempts had been made to injure Mr. Powell on several occasions during the past six or seven years. Expressions such as "a cad," "hunt him down," and "make him sit up" were said to have been used by female guardians with reference to Mr. Powell. These allegations were denied by the women implicated and the approval by the board of guardians of Mr. Powell's action was entered on the minutes. The whole tone of the proceedings showed that a proportion of the guardians present looked upon the meeting as an opportunity for the exercise of pugnacious proclivities. A speaker, who had a green patch over one of his eyes (we learn this from our contemporary's picturesque account) read the following stanza in support of Mr. Powell:—

> "I hope you will excuse me all,
> As I have got an ugly fall;
> The just man falls seven times a day—
> Then how could I escape, I pray?
> I fell 'gainst will a rough curbstone,
> I slipped my foot, and down was thrown;
> A little blood no doubt was sped—
> But still the green's above the red;
> So here I am for fight, 'tis true,
> The Faugha Balla! whack, hurroo!'

Immediately afterwards some one called a brother guardian "a bigoted Papist," and a female guardian objected to the statement that she was "no lady." Ireland is not the only country where a board of guardians has been found to misbehave, but we think that such a meeting as the one to which we have been alluding could hardly have taken place anywhere except in Ireland. The regrettable religious question gets mixed up with public affairs and thus any official, however capable or honourable, runs a chance of being vilified by opponents whose attitude is dictated by their creed and not by their judgment.

AN INLAND HEALTH RESORT.

To the Editors of THE LANCET.

SIRS,—Can any of your readers kindly inform me, a medical man, which is the best health resort in England during the spring in order to escape the early winds. An inland place would be preferred and it should not be relaxing. Is there any better place than Clifton?

I am, Sirs, yours faithfully,

INQUIRER.

HIDDEN TREASURE.

SOME little time ago we suggested that the perpetual digging up of the roads and footpaths might be due to the fact that the diggers, or the authorities on whose directions they acted, imagined that hidden treasure existed. Our hypothesis, which was at the time received without the gravity due to it, has to some extent become realised. For parts of London are now infested with excavators who are avowedly searching for money. A Sunday newspaper, as many of us have reason to know, recently issued advertisements to the effect that tokens to the value of £50 were buried in certain districts of the metropolis, which districts became thereupon infested with roughs intent on digging through or into anything in their quest of loot. At Marylebone police-court on Jan. 18th a labourer was sentenced to a fine of 40*s.* or one month's imprisonment for damaging the roots of a tree in Maida Vale, the property of the borough council. At Clerkenwell police-court on the same day four other persons were charged with damaging property while hunting for the treasure. Evidence was given at both courts of widespread damage but at Clerkenwell the magistrate took the defendants' bail for their good behaviour. Mr. Debenham, who prosecuted at this court, said very rightly that the persons really responsible were the proprietors of the newspaper, but Mr. Bros pointed out that he did not see his way to issue any process against them. The law, as we know on very good authority, "is a ass, a idiot," but surely some way could be found of bringing to justice persons who are no more or less than inciters of others to commit illegal acts. Action can be taken against the dupes of the paper for trespass and damage but the real offenders go unpunished. The proprietors of the paper in question may think themselves fortunate that they do not live in the Western States of America for there they would probably receive the sentence of lynch law from outraged private citizens. It is difficult to bear with equanimity the mining operations of our municipalities; there is no need to be patient at all in the matter of these treasure-seekers.

OLD LAMBETH.

THE January issue of the *St. Thomas's Hospital Gazette* contains an interesting article on the excavations being made for the erection of a nurses' home at St. Thomas's Hospital. Two coloured prints accompany the article. One is a reproduction from a mezzotint dated 1795 which shows the palace, Bishops' Walk, and some small houses on the river bank. The other shows the north end of Bishops' Walk with the small houses on the west side of the road and the wall of the palace garden opposite. Bishops' Walk was a beautiful promenade lying between the Archbishop's garden and the river. It was swept away to make room for the Albert Embankment. In early times Lambeth was part of the great marsh on the south side of the river and was submerged by the stream at each high tide. On the opposite side of the river was the Isle of Thorney, now Westminster, through which all the trade of the north passed on its way to Dover or to the south coast. The merchants crossed the river by ford or by ferry—the name of Horse-ferry-road commemorates the fact. At Kennington there was a Royal house where it is said that King Hardicanute died either after a drinking bout or, as Sir Walter Besant has suggested, from a

blow received while engaged in the dangerous sport of bone-throwing. This Royal house was at one time the home of the Black Prince and his son Richard II. In the sixteenth century and onwards Lambeth fields were the favourite resort of Londoners and the place was celebrated for the variety of sweet-smelling flowers and medicinal herbs which grew there. In the reign of William III., where now is Lambeth-walk, there was a celebrated place of amusement called Lambeth Wells, and its waters were held in high repute; they were advertised at "a penny a quart, the same price paid by St. Thomas's Hospital." Searle's boat house, which is to be seen in the second of the two prints, was quite familiar to boating men of 40 years ago, and here the boys of Westminster School kept their boats. About the time when it was demolished one of the boys being given the quotation, "*Non sors sed fors quæ unique loco est*," upon which to write an epigram produced the following:—

> "Searle's boat yard's taken from us
> And embankments *sore* provoke us,
> We've no *locus* for our boat house,
> Where we used to keep our *Fours*.
> If the poet truly tell us
> There's a *fors* for every *locus*,
> Then doubly hard on us 'tis
> We've no *locus* for our *Fours*,
> While to Searle's yard succeeding
> By a slightly different reading
> The patients of St. Thomas
> Find a *locus* for their *sores*."

The writer concludes his article by saying that, "Probably before very long Lambeth, as we know it at present, will be only a memory; we shall find it then as hard to reconstruct the Lambeth of to-day as now we find it to form any real picture of Lambeth before St. Thomas's migrated."

MUGNA'S SMOKE-WASHING APPARATUS.

MR. L. BARNARD of 12, North-crescent, Tottenham-court-road, London, W., has drawn our attention to the application of this smoke-washing apparatus to two chimneys at a restaurant in the Strand where it may be seen daily in action. The apparatus was described in THE LANCET of March 21st, 1903. It consists of a fan which sucks the smoke from the chimney into a chamber fitted with revolving paddles which bring the smoke into intimate contact with water. The effect is excellent. Instead of black smoke pouring out of the chimney, as was previously the case, there is now only a slight discharge of white and practically odourless vapour. Both the fan and the paddle are revolved by means of a small dynamo, the whole arrangement being on the roof. The effectiveness of this appliance is very obvious from the filthy condition of the wash-water. The apparatus serves also to accelerate the draught up the chimney, while it effectually prevents the down draught. This is a very important consummation where kitchens on the top floor are concerned. We have often pointed out that it is the chimneys of hotel and restaurant kitchens which contribute largely to the foul smoky state of the atmosphere of London. It is stated that this apparatus is economical in use and the soot and tarry matter which accumulate in the tank may be used as fuel or for other useful purposes.

DANIEL LAMBERT.

To the Editors of THE LANCET.

SIRS,—In regard to your references to Daniel Lambert and Edward Bright in your annotation "The Fat Boy of Peckham" in THE LANCET of Jan. 9th, 1904, perhaps the following note which I have discovered in the *Monthly Magazine* of July, 1804, may be of interest to your readers:—

> "One of the greatest prodigies at present in this kingdom, if not an extravagation of nature, is Mr. Samuel (*sic*) Lambert of Leicester, and master of the county jail there, who weighs not less than 45 stone 12 pounds, which is about half a hundred-weight more than what the famous Bright of Maldon weighed, who, as appears from authentic testimonies, could button seven men within his waistcoat. Mr. Lambert had often objected to being weighed, but getting into a postchaise by a preconcerted plan of some of his friends he was taken over a weighing machine where it was ascertained with great facility to his no small mortification."

All the Year Round of August 25th, 1860, stated that when Daniel Lambert died he weighed 55 stones. In conclusion, I believe that a certain Mr. Joe Grimes of Cincinnati, U.S.A., claims to be the largest man in the world. He is 6 feet 4 inches in height and weighs 54 stones.

I am, Sirs, yours faithfully,

Jan. 13th, 1904. S. B.

Ismail.—We are only in a position to advise our correspondent very generally. In the working of the suggested new and joint practice there will be two things influencing the shares of profits: (1) the prestige of the medical men and (2) the amount of work done by each. It is clear that the older firm will enter upon the new practice with excellent introductions, so that they may fairly attribute some of the earlier patients as coming to them, their names being well known. On the other hand, it is possible that the gentleman with the smaller practice will have more time to devote to the new work. Supposing that the junior partner in the old firm and the practitioner with the smaller practice did the new work equally between them then the profits might be divided into three shares, one-third going to each of the two men doing the work and one-third for a certain period of time to the older firm in return for the introduction afforded by its name. It would be well to instruct a solicitor to put this or some such agreement on paper when the details could be settled by friendly argument between the parties concerned. The idea of amalgamation is a good one.

A. F.—Gardiner's "Household Medicine and Sickroom Guide," edited by W. H. C. Staveley, F.R.C.S., thirteenth edition; London, Smith, Elder, and Co., 1898, price 8*s.* 6*d.* "Practical Nursing," by Isla Stewart and H. Cuff, M.D. Lond., will also be found useful. The work is in two volumes and is published by William Blackwood and Sons, London and Edinburgh. Our correspondent might also apply to the St. John Ambulance Association, St. John's Gate, Clerkenwell, London, E.C., for their "Manual of First Aid."

Ex-civil Surgeon (late Boer war, now in private practice) asks:—On what occasions can I with good taste wear the South African medal? Can it be worn when in evening dress at public dinners, functions, &c.; should the medal or only the ribbon be worn?

Urgent should consult his solicitor as to the proceedings to be taken under what is termed a Deed Poll.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 21st, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 15	29·63	W.	0·09	63	46	38	36	38	Fine
,, 16	29·79	N.W.	...	58	40	35	35	37	Fine
,, 17	30·25	W.	...	64	42	33	Fzn.	35	Cloudy
,, 18	30·21	S.W.	0·05	52	51	33	41	42	Raining
,, 19	30·33	N.	0·02	51	51	42	48	50	Overcast
,, 20	30·53	E.	0·04	42	38	35	34	36	Cloudy
,, 21	30·42	S.W.	0·05	48	44	33	35	35	Raining

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (25th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Discussion on Pelvic Lesions in Relation to Abdominal Diagnosis (opened by Dr. M. Handfield-Jones).

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communications:—Mr. S. Sewill: (1) Congenital Deficiency of Permanent Teeth; (2) A Supernumerary Tooth in the Molar Region. Paper:—Mr. F. J. Bennett: Some Conditions of the Pulp in Relation to Dentine and Interglobular Dentine (with lantern illustrations).

TUESDAY (26th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Mr. B. G. A. Moynihan: Hour-glass Stomach (with demonstration on the epidiascope).

WEDNESDAY (27th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Pathological Evening.

THURSDAY (28th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M. Cases will be shown by Mr. G. W. Thompson, Mr. E. T. Collins, Mr. G. W. Roll, Mr. S. J. Taylor, Dr. L. Werner, and Dr. D. Mowat. 8.30 P.M. Papers:—Mr. A. H. Jessop: Cases of Ptosis.—Mr. G. Brooksbank-James: A Plan of Treatment in some Cases of Asthenopia.—Mr. W. M. Beaumont: A Note on the Eye Symptoms of Rheumatoid Arthritis with a Special Reference to the Field of Vision.—Major Maynard and Dr. L. Rogers: Pulsating Exophthalmos due to Dilatation and Dropsy of the Optic Nerve accompanying Internal Hydrocephalus.—Mr. J. R. Lunn: Notes of a Case of Tuberculosis of the Choroid.

FRIDAY (29th).—BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (11, Chandos-street, Cavendish-square, W.).—Cases will be shown by Dr. Kelson, Dr. W. Wingrave, Dr. A. Wylie, Mr. M. Collier, and Mr. Stuart-Low. The President: Annual Address. Communication: Mr. M. Collier.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—5 P.M. Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. Macleod: Clinique. (Skin.) 5.15 P.M. Mr. H. L. Barnard: Chronic Intestinal Obstruction.

TUESDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Bidwell: Plaster-of-Paris Splints.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. H. Green: Clinique. (Medical.) 5.15 P.M. Dr. E. Cautley: Primary Anæmia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Batten: Family and Hereditary Disease.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—5 P.M. Prof. L. C. Miall: The Development of Animals. (Lecture III.)

WEDNESDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. Paton: Clinique. (Surgical.) 5.15 P.M. Dr. W. Carr: Infant Feeding.

LONDON TEMPERANCE HOSPITAL (Hampstead-road, N.W.).—4 P.M. Lecture:—Diseases of the Stomach, Gastric Ulcer. (Post-Graduate Course.)

THURSDAY (28th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. L. Williams: Dental Caries, its Etiology and Treatment.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique (Surgical.) 5.15 P.M. Mr. L. Cheatle: Operations for Cancer of the Tongue and Naso-labial Regions.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Dr. F. J. McCann: Metrorrhagia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Mr. H. W. Carson: Abdominal Surgery.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Murray: Demonstration of Medical Cases. (Post-Graduate Course.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Dr. G. Johnston: Fibrosis of the Lungs, I. (with cases). (Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.). 6.15 P.M. Dr. M. Dockrell: Syphilis. (Chesterfield Lecture.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Hutchison: The Significance of Some Common Symptoms in Diseases of Children.

COUNCIL OF LEGAL EDUCATION (Old Hall, Lincoln's Inn).—8 P.M. Dr. F. J. Waldo: Medical Jurisprudence. Lecture III.—Death in its Medico-legal Relations.

FRIDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Bidwell: Plaster-of-Paris Splints.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Tilley: Clinique. (Throat.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Taylor: Epilepsy.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—9 P.M. Mr. D. G. Hogarth: The Marshes of the Nile Delta.

EDITORIAL NOTICES.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1903, which was completed with the issue of Dec. 26th, were given in THE LANCET of Jan. 2nd, 1904.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1903 are now ready. Bound in cloth, gilt lettered, price 13*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s* 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

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